

THE PLOUGH

THE LOOM AND THE ANVIL.

FARMER AND MECHANIC.

DEVOTED TO SCIENTIFIC AND PRACTICAL AGRICULTURE—MANUFACTURES—MECHANICS—
NEW INVENTIONS—A SOUND PROTECTIVE POLICY—FARM BUILDINGS—OOT-
TAGH DESIGNS—FRUIT TREES—FLOWERS—GARDENING—BRES,
CATTLE, HORSES, HOGS, SHEEP, POULTRY, &c.

NEW YORK:

PUBLISHED BY MYRON FINCH, No. 9 SPRUCE STREET.

All Letters containing moneys, and sent by mail for this Journal, should be directed to the office
at No. 9 Spruce Street, New-York.

For Prospectus, Terms, Postage, Contents, &c., see next page of Cover.

The Plough, the Loom, and the Anvil

The Plough, the Loom, and the Anvil, is issued MONTHLY, and contains SIXTY-FOUR PAGES of closely printed matter, richly embellished with appropriate engravings, and will hereafter be published at the following

GREATLY REDUCED RATES OF SUBSCRIPTION:

One Copy	one year payable in advance,	\$3 00
Two Copies, \$2.50 each,	" " "	5 00
Five " 2.00 "	" " "	10 00
Ten " 1.50 "	" " "	15 00

All letters should be post-paid, and addressed to
MYRON FINCH
OFFICE OF THE PLOUGH, THE LOOM, AND THE ANVIL, No. 9 Spruce St., New-York

POSTAGE.

THE PLOUGH, THE LOOM, AND THE ANVIL to actual subscribers is chargeable in any part of the United States, when paid quarterly or yearly in advance, at only 12 Cents per Year.

WM. WHITE SMITH, of Philadelphia, is our Agent for Pennsylvania. S. D. ALLEN is General Agent for this Journal.

CONTENTS OF NO. 8.—VOL. VII.

Annual Fairs—the Policy of, &c.,	449	Italian Rye Grass,	484
United States Agricultural Society,	456	Artificial Manures,	485
Report of Essex Co., Mass., Agricultural Soc.,	456	Cultivation of Sandy Soils, Long Island,	486
Building Material's—Caen Stone,	461	Atlantic Cotton Mills,	487
Microscopic Plants,	461	Population of Michigan,	489
Turpentine Convention,	462	Good Coffee,	490
Western Railroads,	464	Best Position of Fires for Warming Apartments,	491
A Stage Route to California,	465	Turnips as Feed,	492
Royal Danish Railway,	465	Condition and Prospects of Minnesota,	493
Baltimore & Ohio Railroad,	466	Value of Manufactures,	493
Glue for Plants,	469	Manufacture of Plate Glass,	494
Repeal of the Duty on Coal,	470	Cashmere Goats,	496
How much Lime do Soils need?	471	New Gas Stove,	497
Biograph—Hon. Marshall Pinckney Wilder,	472	Cast Iron Houses,	498
Corn in New-Hampshire,	478	The Lowell Wire Fence,	499
Fat Hogs,	479	American Solidified Milk,	501
Crops in Virginia—Southern Ploughs, &c.,	480	Bloomfield's Cylindrical Steam Valve,	502
Chemical Examination of the Cob of Maize,	481	Miscellaneous,	503
Corn Statistics in France,	482	New Books,	509
Flowering of Fruit Trees in 1854,	483	List of Patents Issued,	511
Hereditary Spavin—Cause, &c.,	483		



FAIRBANKS' PLATFORM SCALES

The Acknowledged Standard!

VARIOUS MODIFICATIONS, AS

RAILROAD SCALES, HAY SCALES, AND CATTLE SCALES

WITH IRON LEVERS AND STEEL BEARINGS, FOR FARMERS' USE.

IRON SCALES, &C., &C.

New-York State Agricultural Society,
State Agricultural Rooms, Albany, Feb. 20, 1854.

At the Show of the Society, held at Buffalo, in September last, a Cattle-weighing Machine was erected by Messrs. T. & B. Fairbanks & Co., of St. Johnsbury, Vt. The Scales of Messrs. Fairbanks were selected as most likely to give satisfaction to the exhibitors of fat cattle. The judges appointed on miscellaneous articles awarded the first premium of the Society for the machine which was erected by them,—and the judges on fat cattle, who superintended the weighing of all cattle exhibited, expressed their approbation of the great accuracy of the machine.

BENJ. P. JOHNSON, Cor. Secretary.

Sold and Warranted by FAIRBANKS & Co., 89 Water Street, New-York.

vil

print
g

00

00

00

00

York

of t

ener

184

185

186

187

189

190

191

192

193

193

194

196

197

198

199

01

02

03

09

11

IS

LER

E.

4.5

ed

m

ed

per

.

31

into

k.

the

ra

=

The Plough, the Loom, and the Anvil.

VOL. VII.

FEBRUARY, 1855.

No. 8.

ANNUAL FAIRS—THE POLICY OF, ETC.

Two months since, we gave our views, somewhat concisely, on the policy of these institutions. We have received one reply, which will be found in connection with these remarks, and which, we think, brings out distinctly the essential facts and principles which belong to the discussion of this subject.

FOR THE PLOUGH, THE LOOM, AND THE ANVIL.

MESSRS. EDITORS: The benefits of agricultural fairs have become so well known among all classes, that a repetition of their valuable results among all classes, hardly need be made at present. Yet the manner in which they are conducted appears to claim more of the attention of the public now than the principle on which they are sustained. That fairs, both agricultural and mechanical, should always be held in connection with each other, all must see and admit at once. But their management in detail is another consideration, which we all are or should be interested in. Now, the question is, how to obtain from these annual "fairs" the greatest amount of good. During the last twelve or fifteen years, in connection with the "New-Haven County Society," we (with others that we could name) have had some experience in the management of "fairs," and the interest taken in them by the people. Our out-door exhibition was always held in such a way that it was "free" for all to look on and learn as much from the exhibition as they might feel disposed to. But that was not the end of it. When we came to foot up the expenses, and pay the "premiums," we always found ourselves "short" of means, and an empty treasury to begin the next year. By the in-door exhibition, which was held usually in connection with the "Horticultural Society," we obtained some six cents a member—a mere nominal sum. But as the out-door exhibition was "free" for all, it was a mere matter of fancy whether farmers became members or not; as in case they became members of the Society, they paid their "dollar;" if not, of course they paid nothing. Of course, all we had to depend on to pay our "premiums" were the amounts received from farmers who paid their dollar, except a small sum we received from the State on condition we raised the same sum in the county. If all, or even a majority of the farmers in the county would pay their annual dollar tax, we should then have means enough to pay the "premiums," and have a snug sum left to begin the next year. But as it was optional with farmers whether they became regular members or not, there was no dependence to be placed on the amount of means to be obtained in that way. Many farmers will pay their dollar if there is a chance of getting it back in a "premium," with two or three times as much. These ideas have led us to see that there must be some other plan adopted to raise means in order to make these

annual exhibitions permanently successful. The plan that has been adopted by some societies, of buying or hiring a piece of land of sufficient size and extent for the annual exhibition, is a good one. This plan, of course, will make the county exhibition a permanent fixture in one place, then the inclosing of the grounds with a substantial board fence, and erecting such buildings as are wanted for the present and future exhibitions. This plan, of course, secures an "entrance-fee" at the gates, which is right and just, as we understand it; and in this way a handsome sum can be raised to pay the "premiums," leaving, perhaps, a balance in the treasury to begin another year. When a State or county fair is holding its first exhibition, perhaps a twenty-five cent charge at the gates might not be out of place; but after this we think a twelve-and-a-half cent charge after the plan of the New-York State Fair, would eventually leave more money in the treasury than a higher charge. Of course, this plan of a permanent exhibition can not apply to a State society, as they must change the place of these exhibitions each season, according to circumstances. But as to free fairs for every body to look on without any expense, we have but little confidence in them. Of course, every reasonable man should understand that a "fair" can not be got up and sustained without much labor and a great deal of expense. And, further, they should understand that if a fair is worth any thing at all, it is worth paying for, and that this "tax" to support and sustain the fair should not come out of the pockets of the few, but from the hands of the many. Our experience has shown us that, when farmers have become interested enough in the "fair" to become permanent members, that then they would, in reality, begin to learn something from the exhibition. But as long as they stood as mere lookers-on, as "outsiders," it was a matter of indifference whether they gained any profit or not. And this rule, we believe, will hold good with the masses; that the extra "shilling" that is paid at the gate is, in reality, of no particular consequence; that if they go to the "fair" for the object of getting instruction and learning something, they can do so always.

It should be ever borne in mind that, to carry out these annual fairs requires a great deal of labor and much money. Hence the idea of carrying the "fair" into the "rural districts," among a sparse population, we think could only be thought of by having beforehand an overflowing "treasury" to start with. Because, when you get through with the exhibition, the "money" has got to be raised to pay off. If, after you have got through with the exhibition, you find that you have only means enough to pay the premiums, to say nothing of the current expenses, where are you? Echo will answer, "where?" Of course, it would be a very fine idea for every section throughout the State, if they could, once in a series of years, have the fair in their own locality; but then, as we said before, who is going to pay for it? It is very evident that, if these fairs are sustained at all, it must be done by the people at large. Then, if this be the case, it is very evident that the fair must go where the people are, or where they would be likely to come. Then again, it must be held at some point where the multitude can be accommodated for two or four days, or during the exhibition.

So it will be seen that all these ideas must be taken into consideration in locating the "fair" from year to year, in order to insure success. These ideas have been thrown out by seeing some remarks on the "Benefit of Fairs," in the December number of *THE PLOUGH, THE LOOM, AND THE ANVIL*. As we have said before, the idea of the spectator paying a small fee to see the exhibition, we consider of no consequence whatever, so far as the "looker-on" is concerned, although in the receipts of the treasury it might make a vast dif-

ference. We have found, in our experience, that farmers were even more indifferent toward becoming members of the society, where they could have the whole out-door exhibition open to every body, than when managed on the present plan. In regard to the general benefits of fairs, it is impossible to enumerate them; their name is legion, and it would require many sheets of paper to name them all. That there can be great improvements made in their management hereafter, no one can doubt. Still, in whatever way or shape these exhibitions are managed or held, all will depend on the people themselves, whether they learn any thing from the exhibition or not. They can spend their time to good advantage, or spend it in a listless, careless way, as they see fit.

Yours, etc.,

Derby, Ct., December, 1854.

L. DURAND.

We propose now to give these questions of policy a more careful consideration, and inquire—

1. Are fairs designed for the especial benefit of those who receive the premiums? Decidedly not. The premiums themselves are awarded, or rather are offered, to induce competition. But competition among whom? Among two or three of the best farmers in the country? By no means. This competition is for all, for the purpose of raising the entire mass of farmers, of emancipating farm-labor from the bondage of inefficiency, ignorance, misapprehension, and miscalculation, that the laborer may work wisely and efficiently on sound theories and correct principles, and become the MAN he ought to be.

Hence the premium is merely one of the moving agencies which are to give efficiency to the fair, and *may be comparatively unimportant*. It is one of the inducements held out to cultivators of the soil to improve their own husbandry. It has an effect; but to what extent?

Suppose no articles brought to the notice of the committees on premiums were to be seen by any body at the show. The animals are all confined in stables, and the specimens of crops grown are shut up in private apartments. None are allowed to look at any thing, except at the few choice specimens for which a premium has been awarded, while all these are arrayed in a very conspicuous place. How many tickets of admission could be sold? Scarcely one to a thousand. Nay, how many competitors for those premiums would there be? Not one where there are now a hundred.

Where were the crowds at our own State fair, last fall? Gazing at the few things which obtained the premium? No. Pressing to see the scores of roadsters in swift pace in the ring—perhaps fifty competitors to a prize; or listening to the explanations of the owner of some new machine, which was on exhibition; or thronging the tent filled with flowers and fruits, very few specimens out of hundreds obtaining any premium.

Nay, more than this. If every article to which a premium is awarded were removed from view—burnt up or destroyed—how much would our fairs suffer? Very often, the loss would scarcely be noticed. There would be still, in almost every such collection, a good show left; and a show of as good things, or very nearly as good—so good that the two rivals must lie side by side ere the superiority of either can be appreciated. We ask again, then, for whose benefit are fairs instituted?

2. Are they designed for the especial benefit of those who, in fact, exhibit? We admit that such do, very often, receive great benefit from fairs. It is the very best way, in many cases, of getting the attention of the public to the article in their possession. We recently invited one whom we found exhibit-

ing an ingenious invention to advertise in our journal. "No, sir," said he; "this is the only way we advertise." He was wrong. After seeing the thing on the grounds, under the excitement of the scene, and after looking at scores of other things equally new, and perhaps more curious, the mind of the spectator is bewildered, and while the exhibitor may think that all leave him sensibly impressed with the wonders of his invention, the fact is, the next machine they look at drives out all others, and this will presently be made to give place to another. But when they come to sit down coolly at home, and read a description of the same thing, and perhaps an editorial commendation, they are far more open to receive abiding impressions—far more so than if they had not made a personal examination at the fair.

While inventors and producers thus gain much by an exhibition of the articles they may have on sale, the *impression* is made on the mind of the spectator. The change is *ONLY* on him. The exhibitor is a gainer thereby, because his object is to impress the people with a conviction that he furnishes a better article than any other.

This is more completely and entirely the case in exhibitions of machinery or implements, but is essentially true of field-crops and animals. Why does A or B exhibit his basket of corn? To show that he has done better than others, has pursued methods and plans that were more successful; and to those who see that corn, the evidence of the senses outweighs all others. To those who do not see, the award of a premium is evidence, and this award is good for nothing else, except as it was required as a means of procuring that corn for the committee's tables. The offer of a premium, then, is only a means of securing, not so much better crops, but *the evidence* that better crops may be grown than are usually obtained; and that many, not one or two, but many, do, *in fact*, secure such crops, and find it to their advantage so to do.

If every body would raise crops as good as those which obtain the first premium, it *might* be that no premium would be expedient. No premium would be expedient unless something still better, not yet attained, was to be looked for.

We are brought back, therefore, to the fact that the ultimate aim of all shows is, to effect, *THROUGH THE SENSES*, the mass of the people. We say through the senses, though not necessarily or exclusively *at the fair*. The fair is the first only of a series of more private exhibitions and conversations and discussions. If mere reading an account of such and such productions was all that is required, all fairs might be dispensed with. Then a few itinerant committees, appointed and paid by the State, might be the very best thing; and we shall, indeed, have something to say on that matter before we are through with this subject.

We come, then, to the inquiry, whether, *in itself considered*, it is best to tax this same public with such an assessment as will hinder them from seeing that show. The answer is perfectly obvious. Such a plan is suicidal and without excuse. Whether a demand of six, twelve, or twenty cents will have this effect, we do not now stop to inquire.

But money must be had, premiums must be paid, various expenses must be incurred, and the fair is indispensable to rapid improvement in agriculture. Men are *so free from selfishness*, that they will not look after their own interest, unless the effort is accompanied with some Dodworth's band—something, at least, to make some kind of a noise. Hence noise has become of very great consideration in civilized communities. It not only keeps Louis Napoleon on his throne, but is of very great importance in rearing calves

and raising potatoes. The only question is, What is the best method of making the noise, or who shall pay for the powder? Let us examine this question.

The first inquiry, as it occurs to us, is whether these institutions are among the "benevolent," so called, or the self or mutual-improving. We should place them among the latter, the mutual-improvement class, which, by the way, is a very numerous one. If we are right in this, our investigation will be very short. For among all these, it is proper and usual for them to pay in common their own expenses. A parish library is to be bought for the mutual benefit of all. Then the parish must pay for it, by tax or contribution. The former plan is always just, the latter sometimes expedient. A mutual insurance company is to be carried on. Who foots the bills? Each member, *pro rata*. Illustrations are needless, the theory is so plain. Those who choose to go into the enterprise must stand in their lot. But many will not do so. They "can't afford it." Then the ordinary modes of proceeding must be abandoned, and the *next best* means attempted, or the plan must be dropped. Voluntary subscription is next in order.

Now, why should A and B and C, each give more than his share? Because he has it to give, and *feels the importance of the subject*. At whose cost is the temperance reform sustained? At the cost of those who totally abstain, and who do not need the reform. Who sustain all the isms of the day? Those who are sufficiently persuaded of their importance to open their purse-strings in their behalf. The agricultural reform being one of this class, those who feel its importance, and they alone, can be relied upon to sustain it. But suppose this reliance fails you, what then? Take the *third best* means? It may be so, or it may not be so. Perhaps it would be better to wait awhile, and bring up the people to a better state of feeling on the subject. But the trouble then would be, that the fair is one of the most efficient means for giving vitality and power to the truth on this very subject. This fact, then, should be allowed its proper influence on the minds of those who have hitherto refused to subscribe for this object.

We have been somewhat celebrated in our day for our advocacy of the doctrine of Protection to American Industry. Our views of principles have not changed *one iota*, though our hopes and expectations are essentially modified. But we venture here a

Novel Form of Industrial Protection.

If the State is benefited by the progress of American industry, as it surely is; if it is the State which is reformed in all such progress as that now soliciting our attention, as it certainly is, then the State is, in fact, the community which should tax itself, and the people have no cause of complaint for any such assessment. It is equally true that all outsiders have nothing to do with the thing; and if they "come in" at all, it must be on our own terms. Now, suppose we should agree that any may come in, provided a certain amount or per centage of the articles thus brought in and sold shall be put into our own treasury, to form a Fund to be expended for our own improvement, to enable us to produce the very best specimens of the article in question in the very best manner. It is unquestionably better that each unit, whether individual or social, should be independent of all others, so far, at least, as these necessary products of labor are concerned. It is desirable that no "neighbor" should be obliged to ask favors of another, to enable him to carry on successfully his own legitimate, regular, and desirable and even indis-

pensable calling, whether this necessity involve one or one hundred items. This seems clear.

These outsiders would like to sell us lots of linen goods, iron in various forms, etc., etc. We have agreed to suffer them to do so at certain rates. Now, let the *committee of arrangements* at Washington, who say that things must remain as they are, so arrange the matter that all or a certain share of the profits of these sales of the property of outsiders, shall be given to our State societies, (there, perhaps, to be further subdivided,) to be expended in instructing us how to produce the highest and best specimens of the same kind among ourselves. In other words, our Society will admit outsiders to sell on our own grounds and in our warehouses, provided they will pay us what we consider a fair price for this right, in competition with our own products. While we are unwilling to tax ourselves for self-improvement, this plan would work out magnificent results. Minute calculations and apportionments would be too tedious, of course; but we might make a general apportionment. The essential point of the thing is, that *the management* at Washington shall secure to the State societies, as trustees, an amount for agricultural and mechanical improvement at home, which shall be a fair equivalent for any loss by the competition of outsiders, which may be permitted on *our own soil*. If we shall prove ourselves incompetent to the work of producing the very best qualities, and in indefinite amounts, after a fair trial, then let all the gates of our inclosure be thrown down, and all our fairs, through all our States and territories, be turned into commons. Would not any farmer justly complain if he was obliged to furnish the necessary facilities in his own buildings, for a rival from a distance to sell the very same articles he produces, and in which competition is hazardous to himself?

But the form in which we have presented this may be thought "too political." In fact, we think it *entirely politic*, and we will be content if, in any form, our *political governments*—who do almost every thing because it is politic or policy, and not because it is just—will carry out a plan of this sort; and we do strenuously contend that our national and State governments ought to furnish liberal provision for expenditures of this description. It might reasonably be required, that all kinds of useful industry should be alike encouraged by premiums and otherwise; and then we can see no reason why the measure should be deemed undesirable or impracticable. All that is necessary is, that the farming and manufacturing industry of the country should demand this for themselves, and the thing is done. One million of dollars apportioned among the States, would give an average of more than \$30,000 to each State, and even much more than this might be given. Our national treasury is running over, but no one dreams of distributing of its profusion among the farmers and mechanics, for the improvement of their several crafts, though these are the very men who sustain the institutions of the country.

We have said that premiums are or may be comparatively unimportant among the instrumentalities used for this object. Perhaps it would be better to say that they should be regarded chiefly as the indirect means of good, rather than as having any value of their own. Thus, when premiums and other means of power over men's curiosity, selfishness, love of gain, etc., have done their work, of securing the attention of the public in one or several places of convocation, then let us have the benefit of carefully-drawn statements of the processes adopted, all the circumstances involved, with the errors of previous years; the details of experiments, whether successful or unsuccessful; propositions for future experiments; suggestions in regard to new

machinery and new applications; specimens of very high styles of products of any kind, as of printing, weaving, paper-making, etc., etc. Thus all may be alike encouraged to emulate these higher specimens of skill, and a general attention, at the same time, be secured at these annual or semi-annual convocations, which might continue for several successive days. Were no other expenditures demanded in such cases, this amount of time and labor would be cheerfully given, and, no doubt, prove very profitable.

The actual view of fine products of the farm, or shop, or mill, we think, of vastly higher value than the most eloquent harangue on theories or on facts. The premium is only valuable as it leads to this other and greater good. Hence the influence of the latter should be as widely extended as possible. The boy, in his teens, may be essentially affected for a whole life as a farmer by such an exhibition. Many a fruit-grower or raiser of cattle would then be stimulated to adopt practices of vital importance in the improvement of our stock. Many a dairy-maid might there be inspired with a sort of *esprit de corps*, which would exert a controlling influence upon these products of the farm. This kind of training might awaken a *pride of production* in every department of farm work, which would deserve the name of revolution, when contrasted with the general indifference now prevalent among a large majority of our citizens.

We have often said that our farmers need not information half so much as means, to place them all among our men of progress. One form in which capital might be used to very great advantage, through the agency of agricultural societies, is by loaning money, with or without interest, for a term of two or three years, to enable farmers of small means to cultivate their lands. Increased products would furnish the means of repayment and leave them in possession of fertile acres in place of barren, worn-out wastes. The loan might be repaid by a certain amount of each year's crop, or by the excess of all over so much per acre, when expended under direction, and thus more be received than was given, while the farmer also has more, beside his improved lands. We are by no means sure that the money now paid as premiums, if laid out as interest for money hired, even from the banks, for such uses, would not accomplish more good than it does now. Certainly it is true that a capital of a hundred thousand dollars of State stocks, might be created, costing no man a farthing, but the whole manufactured out of a quire of paper, and at the only possible cost of the *State's name*. We can see no objection whatever to such an operation, to any reasonable amount. It is not fictitious issue for currency, but a State loan for a specific purpose. All that the State could be liable for could be most abundantly secured in various ways, so that no loss, in any event, would be anticipated. But on the other hand, a fund of actual value to an indefinite extent might, in due time, be acquired by the payments of instalments, from time to time, by those who have had the benefit of the loans. Then the whole operation would be, not more safe, but become a solid and substantial fund, the very erection of which has already renovated, perhaps half the farms of the State, and its future operations secure constant and important progress in every branch of home industry, whether on the farm or in the shop.

There is another form of service, which, we think, our agricultural societies might render at a trifling cost. When we had the honor of presiding over a school, we did much by honorary marks. Not only each boy might earn them, but a series of benches—that is, the occupants of them—was also entitled to them. Thus the more orderly, or more gentlemanly half, as the eastern and western, received, each week, some valued distinction. So our com-

mittees might do with towns or districts. Some men have a measure of town pride, who have no love of self-reform. They like to belong to a handsome company, military or any thing else; though they have no love for tactics or strict discipline. When the best town team is honored with a premium, as it is in many counties in Massachusetts, a farmer may buy a yoke of good oxen, from this sort of pride, when he would not do so from any love of good cattle. So the general condition of the several districts or towns in each and all the several points of good husbandry might, at least, be given in a carefully-drawn report, the facts being determined by actual observation. Thus we have work for a travelling committee, named in the former part of this paper, on whom also the weekly or monthly supervision of all farms entered for premium as the "best-managed farms" would naturally devolve. The same committee might also inspect, with little additional trouble, all experiments going on under the auspices of the society. In fact, the difficulty would consist in making the selection of those services which should seem most urgent, rather than in finding out how to occupy such a committee to advantage. This labor would now seem premature in some communities. When we have advanced far enough to employ such committees, many questions will naturally present themselves as to the duties to be required of them. It is only just, however, to suggest that several societies in New-England, and perhaps elsewhere, have had such committees for several years.

UNITED STATES AGRICULTURAL SOCIETY.

THE Third Annual Meeting of the United States Agricultural Society will be held at Washington, D. C., on Wednesday, February 28, 1855. Business of importance will come before the meeting. A new election of officers is to be made, in which it is desirable that every State and territory should be represented. Lectures and interesting discussions are expected on subjects pertaining to the objects of the Association, by distinguished scientific and practical agriculturists. The various Agricultural Societies of the country are respectfully requested to send delegates to this meeting; and all gentlemen who are interested in the welfare of American agriculture, who would promote a more cordial spirit of intercourse between the different sections of our land, and who would elevate this most important pursuit to a position of greater usefulness and honor, are also invited to be present on this occasion.

W. S. KING, *Secretary*.

MARSHALL P. WILDER, *Pres't*.

REPORT OF ESSEX COUNTY (MASS.) AGRICULTURAL SOCIETY.

By the courtesy of Hon. J. W. Proctor, we have received a copy of the Transactions of the Essex County (Mass.) Agricultural Society. This county, the home of Pickering and his compeers, is not famous in its political renown alone; it raises MEN. And though not remarkable, generally, for the quality of its soil, it can show a list of farms, and farmers, and farm products, that would honor any county in New-England. But we took up our pen to commend and make extracts from some of these reports; and first from that on

SWINE.

"It may be, and may remain a general truth, that, in the language of the Chairman of the Hampshire County Committee of last year, 'No one breed is best adapted to all locations and circumstances.' It can hardly be credited, however, for a moment, that the answers to inquiries of the United States Commissioner of Patents, some two years ago, making a different and distinct breed necessary for almost every State, are to be taken as literally true. May it not be fairly questioned whether there are really as many distinct breeds of swine as there appear to be?

And might not a better knowledge of animal physiology aid us in accounting for the fact that different breeds of swine are so often recommended for the same or a neighboring locality? Or to be more explicit, has it not often been found true, that of the same litter of pigs some die and some live—and of those that live, a part shall do well and the rest shall not? And what butcher of swine is not familiar with the fact, that the *post mortem* examination often reveals the diseased liver, with its large or small ulcers, or worms in the intestines requiring a considerable part of the food taken by the animal for their support; or other diseased organs, not easily detected, even when the animal is slaughtered, and almost always unsuspected till then? In short, may not adventitious circumstances have often, most undeservedly, given complexion to our ideas of the value of our breeds of swine?"

"The following from the Agriculture of Massachusetts, for 1853, compiled by our indefatigable Secretary, Mr. Flint, page 364, will show how little reliance can be placed upon opinions often formed and expressed upon this subject. The question put to gentlemen in different parts of the country, contained in the United States Commissioner's circular, was, 'What is the best breed of hogs?' and says the writer, New-Hampshire answers 'The Suffolk;' Connecticut, 'A mixture of the old-fashioned hog with Berkshire and the China breed does very well;' New-York, by three of her citizens, separately, says, 'Berkshires and Leicesters;' New-Jersey answers, 'A cross with the Berkshire;' Pennsylvania says, 'A cross of the Berkshires and Chester County;' Virginia says, 'Irish Grazier and mixed Berkshire are our common stock;' Georgia answers, 'The best breeds for the climate are the Woburn and Grazier;' Mississippi says, 'The best hogs I have tried are the Berkshires;' Texas, 'Irish Grazier;' Tennessee says, 'The common old Grazier mixed with the Hindoo breed.' And without following the language too literally, it may be added, that while Kentucky is satisfied with the 'Woburn' only, her more voracious neighbor, Ohio, must have the 'Leicester,' 'Bedford,' 'Chinese,' and the 'Calcutta;' and while Missouri takes a cross of the 'black Berkshire' and the 'white Irish,' Florida says that 'for the range, or shift-for-yourself system, the long-nosed Pike stands A No. 1.'

And when it appears as it does from the same source, that a hundred pounds of corn yield in some cases 'but eight pounds of pork,' and in others 'forty pounds,' it would seem that there must be something more than the peculiarities of breed to be taken into the account in explaining these results. Not indeed, let it be distinctly understood, that the accidents of diseased organs, etc., referred to, would account for all this variety of opinion; and least of all would we intimate that gentlemen answer the Commissioner without suitable reflection. But great as is the confusion and apparent number of breeds, and the mixing up of breeds, there might be found to be less of both, we think, if the 'accidents' were fewer, or if we were better able to detect them.

It is a fair question, and an important one to begin with, What and how many breeds of hogs are there really distinct? Some are so, clearly—but the question is not easily determined, and no discussion of it is proposed in this report. The generally received opinion is, that the Suffolk is a distinct, original breed. Let it be so considered. Now, is it the best breed for general use in the county of Essex? *It is not*, even though it is true that the pork of this breed is much esteemed, and generally commands from one to two cents a pound extra in Boston market. The reason is obvious; they come to maturity at a very early age, and never, or rarely weigh more than 250 to 300 pounds. There is a real difficulty in keeping them from taking on fat, it is said, in order to their getting any considerable growth at all. Dr. J. Kittredge informed the Committee, while examining his pure Suffolk boars, that he could with difficulty keep them low enough in flesh to answer for breeders or to bring to the show. Their keeping had been one quart of meal a day, with the house slops, and raw apples, both sweet and sour; and upon this keeping they were fat, notwithstanding the large one had served for forty-two sows, and the small one for twenty to thirty, since last spring. It seems therefore now clear, that the Suffolks, being easy to fat, (indeed, being always fat, it is said, after being a month old,) are a suitable breed to cross with.

The only remaining difficulty is, to know and obtain the best breed for crossing with them. And first, it should not be the Chinese, because they incline to fatten too much on the belly and too little on the back, and besides, according to Youatt, they are too oily, and do not make good bacon. Neither should they cross with either the Berkshire or Byfield, because both are too small and snug-boned, to make a large hog. But probably, to put a case within the reach of all, almost any of the large kind, the 'old-fashioned kind,' would make a good crossing with the Suffolk."

"As the 'Agriculture of Massachusetts' by Mr. Flint, referred to in the early part of this Report, is not likely to be seen by all who may see our County Society's Transactions, it may not be amiss to draw upon the Report of the Norfolk County Society's Committee on Swine, for last year, in relation to one point. It is a report prepared with great care, and contains, moreover, a treatise upon swine, by Sanford Howard, of unusual value.

The point about to be mentioned, taken from the report, referred to, is discussed by another writer. This writer starts the idea, and refers to 'Giles, in Philosophical Transactions for 1821,' as an authority for the theory, *that the male, by whom the female is destined to receive her first progeny, stamps a character upon every subsequent produce, even by other males!* As no facts are cited in support of this theory, it will be doubted by many, of course. If, however, it should have the effect of inducing those having valuable sows, to be careful in selecting the boar to which the young sow shall go for the first time, the hint will not be lost. And to apply the rule in our county, it would seem a clear case, that, if those having large-framed sows of any breed, and living within a reasonable distance of a pure-blooded Suffolk, would take the pains to carry them to such boars, they would be well compensated by the extra price they would obtain for their pigs, or by the quantity and quality of the pork if they should keep them, or sell them at market."

Another admirable report, by Thos. E. Payson, Esq., deserves careful attention, especially from the farmers of New-England. We refer to that on

SHEEP.

In discussing the question whether sheep are profitable there, and what is the best breed of sheep, he proceeds as follows:

"But why speculate upon a matter which is capable of proof; and that, too, by the best evidence possible—the testimony of experience? This testimony is all one way, so far as the information of your committee extends, and that is, that sheep are very profitable animals in Essex county, to the general farmer. Not only has this been the case since the demand for lamb and mutton has increased—and the prices of wool have sometimes ranged high—but taking all things into the account, it has *always* been true. A member of our Board of Trustees, lately deceased, whose opinions always received, as they deserved, great consideration, and were seldom found to be wrong, used to say that a pasture which would carry twenty head of full-grown cattle, and for which that number was sufficient, would carry twenty sheep besides, without detriment to the cattle, and with positive benefit to the pasture. However this may be, it is conceded on all hands that a small flock of sheep are as profitable as any stock a farmer can keep. Admit this to be so, and it is easy to make them far more profitable.

We have had, heretofore, with very few exceptions, what are termed the old-fashioned breed of sheep, which is no breed at all, or rather a mongrel intermingling of several breeds; some with long wool, more with short wool, others between long and short—but all of them deficient in what is most and permanently profitable, to wit, weight of carcase. The raising of sheep for their *wool* mainly, or exclusively, must be left to districts of country where pasturage abounds, and which are remote from markets. With us the carcase is to be looked to, rather than the fleece. This deficiency of carcase can be entirely remedied with very little trouble or expense. Sheep of improved breeds—introduced from England by men of ample means and enlarged views, have become so numerous that any farmer can improve his flock almost without money—certainly at a very moderate price. The Leicesters and South-Downs, or grade animals largely impregnated with their respective blood, can be obtained anywhere—and any of them would give increased value to the progeny of our ordinary sheep. The Leicesters have long headed the list of English sheep, but recently either some of the less aristocratic families have stolen a march upon them or the taste of John Bull has changed; for the mutton of the black-faced breeds is worth in Smithfield market half pence per pound more than the Leicesters. We take it that the English are the best judges; and, following them, South-Downs are to be recommended as more valuable to us here than Leicesters. They certainly are to be so recommended, if the fashion of feeding or more properly *starving* sheep, hitherto often practised, is to be continued, for they have 'a patience of occasional short keep, and an endurance of hard stocking equal to any other sheep.'

But the *best* sheep, (in the opinion of those of your committee who have seen them,) which have yet been introduced to the United States, are those lately imported by Mr. Fay, of Lynn—a gentleman to whom our Society, for his pecuniary liberality, is under many obligations; for the benefit of his suggestions and examples far more. After very particular and extensive observation of different breeds and different flocks of the same breed, Mr. Fay selected these, as in his opinion, the best English sheep to send to his farm in Essex county, both for profit and improvement. These sheep have been by him named 'Oxfordshire Downs.' They are *cross-bred* between the Cotswold and pure South-Down, inheriting from the former a carcase exceeding in weight that of the South-Down from one fifth to one quarter—a fleece, the fibre of which is somewhat coarser and stronger, it is true—but weightier than the South-Down by one third to one half; from the latter, the rotund-

ity of form and fullness of muscle in the more valuable parts, with the brown face and legs, so that they may not be very inaptly termed, South-Downs, *enlarged and improved*. We should suppose that the live weight of either of Mr. Fay's imported bucks would exceed two hundred pounds. The ewes are larger than pure South-Down ewes, in like proportion. We recommend to those farmers of the county who are interested in sheep-breeding, to look at these sheep. The sight will well repay the expense of a visit from any part of the Commonwealth.

With these various and abundant materials for improvement within our reach, and with the certainty that the raising of sheep, even unimproved, is profitable, we must be blind to our interests not to take advantage of the opportunities within our reach. Hundreds of acres of pasture-land in the county, partially worn out, and full of shrubs which the cattle reject, may be improved by stocking with sheep. At the same time the animals themselves will probably pay a better profit than any other farm stock."

"Every farm is not adapted to sheep-breeding. Those best adapted to the purpose are where there is an extent of elevated pasture, such as we see in all parts of the county, being over-run with moss and worthless bushes. The improvement of such would add much to the agricultural value of the county. In the opinion of your committee, the stocking of sheep would bring about this result.

In short, your committee recommend to every farmer, whose land is adapted to them, to make trial of a few sheep. Give them a fair chance in summer—bestow upon them *moderate* care at all seasons—but at yearning time give them your undivided attention—feed well afterwards, particularly if the lambs are dropped early in the year, and we think they will amply repay the pains and expense which may be bestowed upon them."

GRAPES.

We learn from the report on this subject, that Mr. Blood, of Newburyport, presented grapes for premium, which were produced from the seeds of Malaga raisins. They are cultivated in the open air, and ripen by the last of August. The vines have been in bearing nine years, and have never failed to produce a good crop in the natural soil, without any nursing, such as bone-manures, guano, etc. Slips from them have proved as productive in Vermont and New-Hampshire, and ripen as early as in Essex county. The committee say that the fruit was "juicy, sweet, and pleasant, but lacked sprightliness and flavor." But they do not consider the fruit so "superior" to others as to deserve a premium under the rules of the Society.

Other reports will receive attention in another issue, our space being limited. One on Poultry, by H. K. Oliver, Esq., is wonderfully full of classic quotations from English and Latin poetry, the former ranging from Mother Goose's Melodies to Milton, and all alike overflowing with fun and wit. No man but a good scholar could write it, and no man who is injured by a real abdominal laugh should dare to read it. We commend it to all who are dyspeptic. But let no devoted lover of Shanghais read it. He would at once call "coffee and pistols for two."

A Report on Farm Implements, by J. W. Proctor, Esq., urges the importance of what we have so strenuously advocated—the more liberal use of implements on the farm. We wish our excellent friend would give us his views more in detail in these pages, and in a practical form. Will he please consider himself notified accordingly?

BUILDING MATERIALS.

CAEN STONE.—We present, in this number, but a single one of the important building stones not already described, and that a new stone in this country, and not very well understood. It is from Caen, in Normandy, and is extensively used across the Atlantic. Its more noticeable properties are as follows:

It is a species of yellow limestone, a mingling of yellow or cream color and white. It yields with great facility to the mallet and chisel; and when the surface is fresh, it may even be cut with a knife. As it is longer exposed to the air, it becomes harder. From its appearance, there might be some doubt as to its durability. Its grain is less compact than our marbles; and if it should be found so porous as to absorb moisture too freely, it might receive damage from our severe frosts. Still we have, at least, the experience of the present winter, and find, as yet, no such result. The Nassau Bank, the whole surface of which is of this stone, exhibits no sign of disintegration that we can discover. Several buildings in this city, recently erected, are constructed with this material. Some dwelling-houses in Ninth street and in Sixteenth street, have fronts of the Caen stone. A new building on the Fifth avenue, opposite Madison Square, is now going up, of the same material. The Unitarian church, still unfinished, corner of Fourth avenue and Twentieth street, partly of this material, is of peculiar construction. The outer surface on all sides consists of alternate layers of Caen stone, yellow of course, and of brick, of the usual red. What the origin of this idea is, we can not say. The stripes of the zebra, etc., run the other way, or perpendicularly, while these are horizontal. Some caviller has uncourteously hinted at a barber's pole. It is an immediate copy, we understand, of "an elegant church on the Continent;" and this, to many minds, is explanation and recommendation quite sufficient. But we purpose simply to describe, without any attempt at defense. These Caen stones are some twelve inches deep, and these are succeeded by an equal height of bricks; and thus these two, the bricks and the stone, alternate from foundation to the coving. The entire style of architecture of this church is novel in this country, and will deserve special mention, no doubt, when it is completed. But our present business only relates to the material employed.

In the new Trinity Chapel, which, by the way, is a very large church, yet unfinished, near Fifth Avenue, and on Twenty-fifth street, we believe, the Caen stone is used for the interior lining. We should think it admirably adapted for this purpose. It is light and pleasant to the eye, which can not be said of the brown sandstone so much in use both for exterior and interior walls, and it is also comparatively cheap. It is brought here as ballast, at a trifling expense, and being very easily worked, it may be made to present any shapes that the fancy of the architect may prefer, whether in the forms of mouldings or more labored and more fanciful chisellings.

MICROSCOPIC PLANTS.—It is stated that a French gardener has reversed the order of things, and instead of producing colossal vegetables, has succeeded in growing microscopic specimens, which are said to contain as much of the nutritious principle as vegetables several times their size.

TURPENTINE CONVENTION.

A CONVENTION of gentlemen interested in the production of turpentine has recently been held in Mobile, Ala. Col. J. S. Deas was President, and A. C. Blount, Esq., Secretary. Able committees were appointed on different branches of the subject. Col. R. D. James presented the following as to the

BEST MODE OF MAKING AND PREPARING TURPENTINE.

The committee to whom was referred the resolution of Col. James, upon the subject of the cultivation of turpentine, etc., beg leave to make the following report. That the character of the soil best adapted to the production of the turpentine pine should be of light and porous nature, with a subsoil of clay, capable of retaining moisture. The pine should be of an extended low-growing top, with thick bark and sap-wood—the trees not to stand so thickly upon the land as to be too much shaded by the overgrowing foliage. The number of boxes to be cut in a tree should be governed by the size of the same. As a general rule for cutting boxes, the committee recommend the following standard: the box to be thirteen inches in horizontal width, three and a half inches in horizontal depth, and seven inches in perpendicular depth; this will produce a box of the capacity of one and a quarter quarts, which, after a few years' use, will be reduced to a box capable of containing a full quart only; which, from experience, your committee believe to be the most profitable size. Taking a tree capable of sustaining two boxes, they would recommend that the boxes be cut side by side, with a life-streak of bark of four inches intervening between them, in preference to cutting them opposite to each other, and that one third or more of the bark should be left for the support of the tree, the boxes to be cut just at the bulge of the tree near the root of the same. The corners of the boxes should be cut out with the inclination of the face of the box, and to extend in a line perpendicular to the outer corners of the same, so as to show a line horizontal and the top of the box—the object of *chipping* being to expose a new surface of the pores for the exudation of the turpentine. The cut of the hacker should extend a half inch in depth into the tree, and one fourth in altitude, and the chipping should be renewed once a week. The best instrument for the purpose is the hacker with a small bowl, to be kept exceedingly sharp, and the best instrument for sharpening the same is the stone known as the Siam hone or slip. Your committee have nothing new to suggest or recommend as to the best mode of dipping, or the best instrument for that purpose; but, in reference to the scrape or hard turpentine, they would advise the use of cloths instead of the old-fashioned box for receiving the same. The committee would recommend the light iron axle two-horse wagon, as the most expeditious and economical for hauling turpentine. The frame for the barrels should be made of 4 × 6-inch scantling, with segments of circles cut therein, one half across the upper face of the same to receive the ends of the barrels, with two interior parallel rails, so that when either end of a barrel is removed from the concave which it occupies, it can be rolled from the wagon on a smooth surface. The committee would recommend that when the distiller can avail himself of a hill-side, the simplest plan to elevate turpentine to the still, is to extend a railway from the top of the hill to the platform. If upon a level plain, the use of the machine employed by flour-mills to elevate their sacks and barrels to the upper stories of the mill, the said machine being a platform, with four upright posts, with a roller in the head of each, two ropes

from the roof of the still-house, passing beneath said rollers, (one on each side,) thence through sheave-blocks and around a cylinder, turned by a crank from below. In regard to preparing the turpentine for distillation, we refer you to the explanation made by a member of this committee, as to the style best adapted to making the best article of rosin. The experience of your committee would lead them to decide in favor of a small-size still, or with a flat and greatly extended surface. The committee would recommend that, in distilling, the still should be charged to only two thirds its capacity, to allow for the expansion of the material during ebullition. The amount of water to be supplied should be equivalent to the amount condensed in the still-worm, and kept in the same ratio so long as the spirit comes over; and should the still have a tendency to boil over, an increased amount of fuel is to be supplied until the excessive ebullition ceases; the heat is then to be diminished, and the still run regularly as before. Your committee deem it unnecessary to enlarge on this point, as they presume that in all cases of new beginners, a practical distiller will be employed. Your committee recommend that in addition to the usual mode of glueing the spirit-casks, that the casks being partially drained after each glueing, be placed upon a horizontal plane, each head alternately placed upon said plane, and would further recommend the use of the Scotch glue, in all cases in which the distiller is unable to manufacture his own glue from good sound hides. The committee would recommend that, in making barrels and casks, the staves and heading should be fully dressed, ready for the truss-hoop, and be permitted to remain some time, previous to being made into barrels, for the purpose of allowing the staves, etc., to shrink. By adopting this course, the barrels are less liable to leakage. The staves for turpentine barrels should be thirty-two inches in length, the head to be worked in a twenty-inch truss-hoop. The spirit-cask should contain forty-five gallons, and in case oak heading can not be obtained, we would recommend the substitution of poplar instead.

From statements made during the discussions of the Convention, it appears that more than a million of acres of land are in partial cultivation in turpentine, and that from the commencement, this business has more than doubled itself annually.

The average product of a laborer is said to be much greater than in the culture of cotton. The following statement was embodied in one of the reports:

The average product of the laborers in making cotton may be said to be at a maximum of four bales; upon which the receivers in Mobile would realize \$10. The same laborers engaged in turpentine will produce 170 barrels of rosin and 30 casks of spirits, the handling of which in the city will produce, under the various charges of wharfage, drayage, storage, insurance, cooperage, and commissions, \$87.50—\$45 on the spirits, and \$42.50 on the rosin. And we would further suggest that the laborer in turpentine will consume of the merchandise of Mobile to an amount equivalent to five hands engaged in cotton, from the fact that his occupation precludes the possibility of his producing any of the necessities of life. The amount used in painting the four millions of dwelling-houses in the United States, or the exceeding great amount of this, together with other naval stores, used in painting and preserving our vast shipping and steamboat marine, your committee have no means of correctly stating. The amount of spirits used in the printing business (there being 2800 presses in this country at a pint per day each) at a low estimate is 2600 casks, containing 112,000 gallons. The manufacture of

India-rubber (but yet in its infancy) consumes 4650 casks, containing 187,000 gallons; this business, it is estimated by those conversant with the subject, will, in the course of five years, increase to the amount of \$15,000,000; in importation of the raw material of caoutchouc, reaching now the sum of \$5,000,000. The extent of its use in gas, camphene, burning-fluid, and for chemical and medical purposes in this country, and the exact amount exported for foreign consumption in these and various other branches of manufacture, your committee have no correct data upon which to base an estimate. Your committee are advised and are aware that an immense amount of rosin is used in the manufacture of rosin oil, the amount of 36,000 barrels being converted into this article in one factory alone in the city of New-York. A similar amount, nearly (say 24,000 barrels) being converted into this oil in the State of North-Carolina, besides a large amount at Norfolk and various other factories in the United States; the exact quantity used by these is not definitely known. The consumption of rosin in the lighting of cities and private residences, also affords an outlet for a very considerable amount; the Capitol of the United States, and some of our best hotels, being lighted exclusively with gas made from it. The extent of the soap-making business in which rosin enters in the ratio of about fifty per cent, is an interest of no insignificant magnitude, and is a source of the greatest consumption, and yet the largest portion of this article consumed seems, from the shipments abroad, to enter into the manufactures of foreign countries. And, in conclusion, we would remark that under no circumstances can the price of spirits fall below thirty cents per gallon; for in that event it will be used to an unlimited extent in the production of gas; and it is produced in no other country to any great extent, except the United States.

WESTERN RAILROADS.

THE following continuous routes are in progress, and are regarded as certain of an early completion:

Memphis to Hopkinsville, - - - - -	203 miles.
Hopkinsville to Henderson, - - - - -	72 "
Henderson to Evansville, - - - - -	12 "
Evansville to the Ohio & Mississippi road, - - - - -	55 "
Point of junction to Cincinnati, - - - - -	155 "
<hr/>	
Total—Memphis to Cincinnati, - - - - -	497

On this subject, the *Louisville Journal* says: "The most rapid communication we now have with the South and South-west is by steamboats, which, on an average, occupy three days in a run from Memphis to Louisville. When the line of road I have described shall have been completed, a speed of but twenty-five miles per hour will make the travelling time from Memphis to Cincinnati, twenty hours.

Thus the opportunity will be presented at Memphis, to business men wishing to make purchases in Louisville or Cincinnati, to reach the latter city by railroad in twenty hours, remain there thirty-two hours, and return to Memphis—all during the three days that would be necessary simply to convey

them by steamboat to Louisville. If we will contribute our aid toward the construction of a hundred and sixty-nine miles of railroad on the air-line route to Memphis, we can save our city in spite of all competitors. Such an improvement will place us within fourteen hours' run of Memphis, and will even fix for ever, as the shortest route from that city to Cincinnati, the one through our own borders."

A STAGE ROUTE TO CALIFORNIA.

GENTLEMEN of St. Louis and elsewhere are endeavoring to establish a daily or weekly line of stages between Missouri and California. They wish to organize a company, with capital to sustain the line a year. The means being made sure of, the Company would obtain a force of men, stages, and horses, adopt a line across the plains and through the mountains, and locate stations fifteen, twenty, or thirty miles apart, as the character of the country might admit, and improve the same by permanent tenements, stables, and inclosures, with men at each station to guard the property and take care of the stock, and sufficient horses or mules for changes and relays. Ten through-passengers daily, at \$100 each, would produce \$730,000. The way-business would add to this, according to the statement of Mr. Mitchell, and an immense amount of gold would pass over the line at a heavy freight. The mails, they say, could be carried in twelve days from Kansas to Sacramento, and of course the line would be employed to carry the mails. These views were detailed with minuteness. F. P. Blair followed in a clear and convincing review of the great merits of the enterprise. Col. Mitchell, an experienced "mountain man," approved of the project, and said that his experience satisfied him that the stage in the mountains would not more materially be obstructed by snows in winter than the stage lines in New-York and Massachusetts. Col. Campbell confirmed this statement. He had spent three winters near the mouth of the Yellow Stone, and there was no snow to hinder any kind of travel. Col. Campbell said that the grass of the mountains did not rot in the fall, but dried and became hay, and could be used by stock. K. M'Kenzie, another "mountain man," confirmed these statements.

Mr. Holiday, of California, who had driven stock over the route, believed in the entire practicability of the project, and said the "Californians would meet Missouri half-way." Finally, resolutions were adopted for making application to the Legislature for charter for this great project; and we are encouraged to believe, says the *Illinois Weekly Journal*, which gives this account, that those persons have taken hold of the measure who will be likely to carry it through.

ROYAL DANISH RAILWAY—The important section of this railway, connecting the Baltic and the North Sea, has been announced. The entire line, including the Rendsburg Branch, forming the junction with the Kiel, Altona, and other lines, will be open early this month, and the undertaking will thus be finished before the stipulated period. Messrs. Peto, Brassey, and Betts, the contractors, have obtained a lease of the line for fourteen years, at a minimum dividend of six per cent on the capital, £540,000, with an equal division of all surplus profits. The Company, however, has power to put an end to the agreement in five or ten years.

BALTIMORE AND OHIO RAILROAD.

THIS Road is a great work. Its importance as a means of travel between New-York and Cincinnati, and other points at the West and South-West, is beginning to be appreciated, especially since the opening of the Ohio Central Road.

At an election for President, held in December, Wm. G. HARRISON, Esq., who has so long and so satisfactorily served the Company in that capacity, was reelected over two powerful competitors for the office.

We append a few statistical tables, and some other items of information gleaned from the Report just published, prepared by JOHN H. DONE, Esq., the acting Superintendent of the road.

REVENUE FOR NOVEMBER.

The revenue for the month of November has been as follows :

	Main stem.	Wash. Br.	Totals.
For passengers, . . .	\$52,600 75	\$23,657 82	\$76,258 57
For freight, . . .	264,170 11	7,443 59	271,613 70
	<u>\$316,770 86</u>	<u>\$31,101 41</u>	<u>\$347,872 27</u>

There was an increase of nearly \$9000 for passengers on the Main Stem, as compared with November of last year, which shows the advantage already resulting to the road from the opening of the Ohio Central Railroad.

A summary of the receipts of both the Main Stem and the Washington Branch roads during the fiscal year ending on the 30th of September, 1854, presents the following :

	From Passengers.	From Tonnage.	Total.
Main Stem, . . .	\$569,091 51	\$3,076,517 92	\$3,645,609 43
Washington Branch,	278,302 11	94,927 50	369,229 61
	<u>\$846,393 62</u>	<u>\$3,167,445 42</u>	<u>\$4,014,839 04</u>

PASSENGER BUSINESS.

Mr Done, in alluding to the foregoing statement, calls attention to the fact that "of the entire revenue for the year—amounting to \$3,645,609.43, only \$569,091.51, or 15.6 per cent, has been derived from passengers—a result so different from the expectations which were formed before the opening of the road, as to surprise even the best-informed upon the subject."

The continued and unprecedented low water in the Ohio, has rendered the magnificent line of steamers constructed by the enterprise of the citizens of Wheeling, of little or no avail, as to the increase of the number of passengers, they having been able to run but a few months continuously since the opening of the road to the Ohio.

The condition of the Ohio River at various periods, very seriously affects the revenue of the road, as regards both freight and passengers. The navigation is obstructed by ice or low water for more than one half of the year. The report indulges in some just remarks as to future prospects from the opening of the Ohio Central Road, and also the Cleveland & Pittsburgh Road from Wellsville to Wheeling.

OF THE TRADE IN LIVE STOCK.

This important branch of trade has been quite active, and appears to be steadily on the increase, especially from Moundsville, Cameron, and other stations on the western division of the Road. The following statement will

show the extent of this trade, giving the quantities of each description of stock transported during the year ending the 30th of September, 1854 :

119,699 Hogs,	Weighing	10,201.1.3.5
31,631 Sheep,	"	1,800.10.0.0
3,522 Horses and Mules,	"	1,762.0.0.0
10,017 Horned Cattle,	"	5,013.0.0.15
164,869	Tons,	18,776.11.3.20

OF THE FLOUR TRADE.

The great importance of the Baltimore & Ohio Railroad is seen in the following table, which shows the amount of flour brought to Baltimore during the year, with the number of barrels from the principal points of shipment :

Months	Wheel- ing.	Mounds- ville.	Cumber- land.	Martins- burg.	Harper's Ferry.	Freder- ick.
October,	10,440	1,812	95	4,128	28,905	5,902
November,	23,592	570	577	3,614	28,288	10,765
December,	28,559	6,815	852	2,847	26,185	8,284
January,	20,746	358	1,319	3,274	21,157	12,602
February,	35,680	1,501	2,377	2,379	21,951	12,080
March,	12,352	1,680	503	1,777	20,498	10,106
April,	12,266	601	110	2,391	13,798	4,746
May,	8,267	90	..	546	10,680	2,945
June,	11,369	..	..	437	9,235	2,518
July,	4,341	..	..	1,290	4,699	1,804
August,	1,060	203	..	3,090½	22,964	3,609
September,	1,435	2,257	..	2,633	21,556	4,460
Total,	170,147	15,887	5,833	27,406½	229,966	79,921
Total from the above points,					529,160½	bbls.
" " all other points on the Main Stem					180,334½	"
					709,495	"
From the Washington Branch Road,					42,754	"
Total number,					752,249	"

FREIGHT FROM WHEELING.

The whole report of Mr. Done abounds in important and well-arranged statistical statements, the latter of which we regret are too voluminous for our limits. There is one statement, however, showing the description and amount of commodities transported from Wheeling to Baltimore from the 1st of March to the 30th of September, 1853, and from the 1st of October 1853, to the 30th of September, 1854, a period of nineteen months, which we condense, showing the following results :

Flour, barrels,	202,545	Cotton, bales,	3,612
Grain, bags,	15,735	Hemp, bales,	18,686
Seed, barrels,	6,849	Wool, bales,	6,086
Butter, barrels,	1,986	Tallow, barrels,	2,286
" kegs,	5,099	Feathers, bags,	4,393
Lard, tierces,	11,530	Tobacco, hhds,	22,754
" barrels,	37,801	Hides,	10,843
" kegs,	43,317	Leather, rolls,	9,527
Oil, barrels,	11,125	Soap and Candles, boxes,	11,883
Pork, barrels,	58,621	Cheese, boxes,	5,264
Bacon, casks,	39,030	Apples, barrels,	7,825
" boxes,	28,935	Dried Fruit, bags,	9,192
Hams, tierces,	19,693	Horses,	510
Beef, barrels,	7,000	Miscellaneous packages,	64,920
Whiskey, barrels,	26,536		

The total number of pounds, in all the above articles from Wheeling alone, is stated at 222,763,675.

This table is interesting as showing "the amount and description of the Western produce which has passed over the road from Wheeling to Baltimore, since the commencement of through-transportation, say 1st March, 1853. It is interesting as showing the character of the trade, as well as its amount and value to the city of Baltimore. Its irregularity also, comparing one month with another, illustrates fully the disadvantage we have labored under from the fluctuations in the river, and the frequent and long interruptions of navigation."

THE COAL TRADE.

The following statement will show the quantities of Coal transported during the year ending 30th September, 1854, from Cumberland, Piedmont, and Fairmont, the three points at which this trade originates, and showing the respective quantities delivered at Locust Point, in the city, and at way-stations :

Point of departure.	Delivered at Locust Point.	Delivered in the city.	Delivered at Way-Stations.	For Company's Use.	Total from each Region.
Cumberland, .	274,273 06	24,134 18	5,262 08	9,112 17	312,783 09
Piedmont, .	99,903 02	14,539 01	13,176 10	46,614 12	174,224 05
Fairmont, .	21,149 17	10,825 16	157 05	5,294 13	37,437 11
Total, .	395 326 05	49,490 15	18,606 02	61,022 02	524,445 05
The statement shows the quantity which paid freight to have been .					463,423 tons.
During the previous year the amount was					308,890 "
Increase,					154,533 "
or 50 per cent.					

The revenue from coal during the year amounts to \$1,134,628.46. The coal trade was almost entirely confined to nine months of the fiscal year.

During the months of *January, February, and March*, the operations of nearly all the mines were stopped, by reason of a strike of the miners; and whilst it continued there was almost a total suspension of the trade. Had this not been the case, the amount transported during the year would probably have reached 550,000 tons.

The demands of the trade at the present time are very urgent; almost every operator in the coal region is pressing for larger accommodations, and new and important mines are about commencing business, with the capacity to mine and send down large quantities of coal. Full employment could be found for at least 50 per cent more machinery in that trade than is now or can be, with the present equipment of the road, appropriated to it. From these facts it will be seen that the advance in freight of 50 cents per ton from Cumberland, and 56 cents from Piedmont, made on the 1st November, 1853, has not operated to check or limit the business.

The road department of the Baltimore & Ohio Railroad Company, is not less worthily administered than is its transportation affairs. This branch of the service though less before the public eye, from the nature of its operations, is of vital concern. The skill, experience, energy, and sound judgment of its head, Wendel Bollman, the inventor of the much approved Railroad bridge, insure the best results to the Company. His annual report, containing much valuable information, is also just published, and may be found in the pamphlet containing the report of the President of the Road, and heads of its several departments.

During the past year twenty-one miles of the second track have been added, and various new sidings put in. Fifty miles of old string-timber track have been removed from the east end of the line, and substituted by new and heavy T rail on cross-ties. Several new bridges, depot buildings, etc., etc., have also been added.

Dr. T. C. Atkinson and Mr. John L. Wilson, are Mr. Bollman's efficient chief assistants.

The machinery department is of deep importance also to the successful working of a great road like this, and, upon its careful and energetic administration much depends. The report of Mr. S. J. Hayes, the worthy master of machinery, shows that the Company owns 208 locomotives, of all kinds, which are mostly in a good state of repair. A number of superior ten-wheeled monster engines have been built by the Company during the last two years, after patterns furnished by Mr. Hayes, and are working most satisfactorily on the Mountain Division, between Piedmont and Newburg. A number of old locomotives have been rebuilt in the same time for passenger uses, and every thing seems to evidence a judicious supervision. Mr. Hayes is said to have arisen from an humble apprentice in the Company's shops, to its chief machinist, and as such is now in command of some twelve or fifteen hundred workmen in various capacities. Mr. D. P. Rennie is the Company's assistant master of machinery.

This subject is one of general interest, affecting almost every locality in the Union. No one can glance at the tables presented by Mr. Done in his able report, and not feel that in the agricultural products and the coal, passing over this great road, every consumer of these articles is deeply interested. Baltimore must soon become one of the largest coal marts in the country, from the transportation facilities afforded by this road. The ready means for shipment at that point are quite equal to those of Philadelphia, and can not fail to be of much importance in keeping the country at large supplied with this necessary article of fuel.

It has been our pleasure to pass over this road several times during the past year. We shall only reiterate what is the testimony of every one at all informed on the subject, when we say that every thing connected with the road is under the very best management. Two passenger-trains are now running daily between Baltimore and Wheeling, passing over the whole distance, 380 miles, in a little more than sixteen hours. The opening of the Ohio Central Road furnishes a complete line to Cincinnati and points further west, and is fast commanding a heavy travel. We take pleasure in commending this route to the travelling public, as one in which speed, comfort, and romantic scenery are combined in a remarkable degree. It must become at no distant day *the* route to Cincinnati and the great West.

GLUE FOR PLANTS.—Here is a fact for our horticultural readers. It has been discovered in France, that, for the generality of flowers, and more especially for pelargoniums, and the most delicate specimens of the lily tribe, common glue, diluted with a sufficient portion of water, forms a richer manure than guano, or any other yet discovered; plants placed in sand, or the worst soils, displaying more beauty and vigor, when watered with this composition, than those grown in the richest mould, and only sprinkled with water.

REPEAL OF THE DUTY ON COAL.

THIS is truly a progressive age, but the progress is not all in one way. We deny to-day what we urge as indispensable to-morrow, and the next day's belief will depend upon circumstances. We are by no means disposed to deny the sincerity of those who DARE to revise their opinions; but we do wish sometimes that men would be sure that what they advocate is the clear voice of reason, and not the dictate of prejudice or of social instincts merely, and then a change of circumstances might not overturn all their theories. It used to be called a sound doctrine with those with whom we were associated, that those measures were alone safe and reliable, which made us independent of the aid of others. This, to us, has always seemed reasonable. It never occurred to us that time and effort, even a considerable outlay reckoned in dollars and cents, expended in teaching a child to walk, was an absolute loss, not even if those engaged in *various pursuits* were called upon for their proportional contributions in this behalf. And what if the pupil became refractory, and kicked his patient and *benevolent* instructors? Why, he must be punished, but not by being suffered to grow up unable to help himself. Others are nearly as much interested as he in his acquiring this art.

Now, you may call this refractory child what you please, Carlos or Carbon; names are nothing. We would have all our juveniles fully instructed and confirmed in this indispensable tuition. But what do we mean by this figurative allusion?

Immense quantities of ink have been expended in urging the necessity of fostering our native productions, that is, of teaching our juveniles to go alone. And we have thought, *on all hands*, that among all our possibilities the coal interest was one of the most valuable. The successful operation of this reaches all classes and conditions among the people. The rich and the poor are affected alike, and no one of any craft or trade or pursuit has not in it a direct personal interest.

But the question is gravely agitated whether it is not best to allow the importation of coal, duty free. We are not surprised that this project should find advocates in certain quarters, but we are surprised at finding certain advocates on that side of the question.

The project may succeed. The duties may be repealed. If so, what will be the consequence? We hazard little in uttering the words of prophecy. We shall witness, in substance, the following state of things.

The first result is, a large importation of foreign coal, with constantly descending prices. Very soon, one after another of our own mining companies will be obliged to abandon their work. The entire supply falls then, essentially, into the hands of foreigners of large capital, able to endure temporary losses. Then the price will rise. Coals will be higher than we have known for years. But if our own mining companies shall venture to reopen their abandoned shafts, these foreign capitalists will again fall in their prices and ruin those who engage in the enterprise. This is just what has been done, over and over again, within the memory of many not among the oldest inhabitants.

What is required by any enterprise which demands such immense outlays in advance, ere they can secure the confidence of the money market? Not immense profits. Our cotton manufacturers taught us this, years ago. Their large profits were almost their ruin. No, not *their* ruin, but the ruin of scores who engaged in that business, and who, in the rush of competition,

were victims of extravagant promises. What is required, and what is surest, safest, and, on all hands, most desirable, is, moderate but certain profit; a market that can be measured, and valued, and relied upon beforehand, a market that is essentially controlled by a regular, healthful, and comparatively constant demand. Fancy stocks, rising and falling with the success or failure of a few stock-jobbers, who create, or who fail to do so, a fictitious value to-day that will be essentially changed to-morrow, this will never establish an enterprise of this description. Read the brief history of the Pennsylvania iron furnaces, and the importance of a steady, sound, healthful condition of the market is perfectly obvious.

Our coal mines have not yet paid high dividends. The older and better established, if convenient to market, have promised well. They are and have been doing well. With increased facilities of transportation, many others will do well, and those facilities are constantly increasing. Some of those recently commenced are in a very favorable condition. Let the duty on coal be repealed, and many of these companies will be "repealed," too. They may bear a moderate and gradual reduction in the price of coal, even from the last year's prices, when they are fairly under way, with cheap conveyances to seaboard, but they must understand the market. They must know what they can reasonably anticipate, and then make their arrangements accordingly.

"But they have conspired together to raise the price of coal, and the people suffer severely." Well, so have flour-dealers; what will you do with them? So have drovers. What will you do with them? So have three fourths, and almost four fourths of all our craftsmen, and men of all avocations, from money-lenders to hotel-keepers. What is the penalty? "But they were obliged to do so." Is this excuse satisfactory? If so, before you condemn colliers, see whether they were not in the same category.

But this is all volunteer defense. The *fact* is denied by the parties concerned, and the fault is thrown back upon the operatives, who struck for higher wages. It is a hard lesson to learn, to bear unusual prosperity. How often have we seen very marked success in business turn a liberal man into a miser, at least so far as to lead him to *crave* more and more earnestly with every increase of the past and present.

If any craft, or any members of any craft, do conspire to over-reach or forestall the market, the law is open. The offense is indictable, and if the common law does not furnish the means for getting at some modern forms of this offense, call in the aid of legislatures. We can have it our own way. But let us not punish ourselves in trying to punish our oppressors.

HOW MUCH LIME DO SOILS NEED?—Professor Emmons, in his Report on the Geological Survey of North-Carolina, says: "If we may appeal to observation and experiment, it is established that a small per centage of lime only is necessary to the highest degree of fertility; and yet this small per centage is *necessary*. If there is present one half of one per cent, it seems to be sufficient; for it is rare to find a larger quantity in productive soils." Prof. E. is a chemist and geologist of long experience, and was one of the first—perhaps the first—to ascertain that some of the most productive soils for wheat in Western New-York contain comparatively little lime.

BIOGRAPHY OF EMINENT MEN.

SOME months ago, we announced to our readers our intention to place upon our pages biographical notices of gentlemen eminent as agriculturists, or as mechanics, and this purpose we have delayed longer than we then intended. We begin the discharge of this assumed obligation in the following pages, being assisted in this service by an interesting portion of a sketch in the last number of *Hunt's Merchants' Magazine*, which is also accompanied with a well-executed portrait. Whether we regard Mr. Wilder's public position in agricultural, horticultural, and pomological societies, or his private character, and the general estimation in which he is held by a very large circle of friends, we certainly could not commence with a more suitable subject. We are therefore very happy to be able to commence our series with a sketch of the life of

Hon. Marshall Pinckney Wilder,

DORCHESTER, MASS.

Mr. Wilder was born in Rindge, a rough and rocky town in Cheshire Co., New-Hampshire. His father was Samuel L. Wilder, a highly respectable farmer and merchant of that place. His grandfather was a member of the Massachusetts Convention of 1787, which voted to adopt the Constitution of the United States. The family were held in very great respect, and filled many important offices. When nearly prepared for admission to college, the subject of our sketch was allowed to follow his own inclinations in a free choice between a learned profession, and the mercantile and agricultural duties of his father. He preferred the latter, and labored on his father's farm, and also assisted in his father's store, commencing as the youngest apprentice—a candidate for future promotion, as his abilities and opportunity might permit. Here he had a training which was of fundamental importance in preparing him for a constantly successful and healthful progress in after-years. At twenty-one years of age, he became a partner with his father. In 1825, he commenced business in Boston, in the firm of Wilder & Payson, and afterward was engaged as a partner in the firm of Wilder & Smith, and still later of Parker, Blanchard & Wilder, and Parker, Wilder & Parker, and now under the name of Parker, Wilder & Co., one of the most distinguished and extensive commission-houses in Boston, engaged exclusively in the sale of domestic manufactures, their goods being wrought in mills, of which they are either owners or agents.

It would be to us a very grateful task to follow Mr. Wilder into his own dwelling, surrounded by his affectionate, accomplished, and well-instructed children, where every thing betokens both refinement and efficiency, and presents a fine model for imitation. But, however pleasant this might be for us, it would require much space, and compel us to be more brief in that department in which our readers are more particularly interested. We therefore leave this track to our own delightful personal recollections, and to the grateful remembrances of all his acquaintances and occasional visitors. It is chiefly in the marvellous products of the earth, its flowers and its fruits, nurtured under his skillful supervision, that we are to present him to our readers. It is in connection with his gardens, his vines, his nurseries, and his orchards, that we must draw our picture.

It was in 1832 that Mr. W. established himself in his present residence, and here he has brought into being one of those little kingdoms of Flora, so

frequently occurring in the suburbs of Boston. In this department he is one of the most distinguished and successful. He was among the first who introduced the new camellias from Europe, and for some species he paid immense sums. Five or six guineas for each was the price of several, having only as many leaves. He entered upon the practice of hybridization of these splendid plants upon the principles laid down by Herbert, and has produced some very remarkable varieties. Among these may be named *C. Wilderi*, *Mrs. Abby Wilder*, *Maria Louisa*, *Glory*, and others. He now has in his possession the mother plant of *C. Floyi*, raised some thirty years ago, by Mr. Floy, of this city, and for which he paid the price of two hundred and fifty dollars.

But this is not especially his *forte*. Others, in that beautiful neighborhood, can, perhaps, make in this department as fine a display as he. Flora is not sole queen on that soil; POMONA has a still higher throne. And two such realms on the same territory, both triumphantly rejoicing in constant and successive victory, without defeat, it may be difficult to discover.

Pears are Mr. Wilder's hobby. He has been styled the PEAR KING. For many years, by importations and other means, he has secured whatever has been produced that was worth possessing. His collection embraces from six to eight hundred varieties. He has had on exhibition, at one time, *three hundred and sixty-seven* varieties of this fruit. Several of the most valuable now grown in this country, were imported by him. For this he had peculiar facilities, being in constant correspondence with the leading amateurs and nurserymen of Europe, who have orders to send him every thing new and desirable as soon as promulgated. He is also an honorary or corresponding member of the principal horticultural societies in Europe. Hence he has the means of obtaining the earliest information on this subject. He has recently been appointed Commissioner of the Belgian Royal Pomological Society for the United States. These facts show also the estimation in which he is held abroad. Indeed, his name is known in Europe almost as extensively as in this country.

This correspondence, to which we have alluded, and the copious notes, memoranda, etc., etc., naturally accumulating from his constant study and numerous experiments, and successful culture, have produced a mass of manuscript, from which he might prepare a work of great value on this subject, and we hope we may, ere long, be favored by its publication.

We have, more than once, heard farmers complain that they did not receive that degree of general respect which was their right. That they were passed by unnoticed, while professional men were placed in important, honorable, and lucrative posts. On this complaint the subject of this sketch is a complete commentary, and also a thorough refutation of it. For while Mr. W. is both merchant and farmer, it is not to his eminence in the mercantile line that he owes most of his reputation. Though he deservedly stands high in that capacity, there are scores about him whom he regards as his equals, accomplished, educated, efficient, all competitors for this same prize, and not a few of them are worthy rivals of the greatest and best. Of that class, in the city of Boston, it is emphatically true that "there are giants in the land." Nor is it, we admit, from the *mere fact* that he is a farmer, that he is honored, but because, when appearing as such, he exhibits the qualities and powers of a MAN—an educated, efficient, determined, upright, honorable, honest man. He has within him, and everywhere and always exhibits, the urbanity and kindness and liberality which adorn man. It was on the resolution hereafter cited, offered and passed unanimously at a magnificent pomological

levee, given by Mr. W. at the Revere House, that Mr. Lines, of Connecticut, said:

"It was due to the gentleman who has presided over the discussions of the Society with so much dignity and ability. He considered that the position in pomology which the president had reached, conferred more honor upon him than the Presidency of the United States could do. A gentleman who confers such immense benefits upon the whole country—he might say the world—as Hon. Mr. Wilder does, is entitled to distinguished honors. He hoped this resolution would be passed by a standing vote." Several other gentlemen offered remarks in the highest degree complimentary.

On the formation of the Norfolk County Agricultural Society, in 1849, we think, Mr. W. was chosen President, and, in the year following, gave the first annual address, full of valuable thoughts, on the subject of agricultural education. It was at the dinner, after the close of that address, that we enjoyed a greater intellectual treat than often falls to the lot of one in any country, or under any circumstances. We heard, at this one table, addresses from Mr. Wilder, who presided; Levi Lincoln, Horace Mann, George Briggs, Josiah Quincy, Josiah Quincy, Jr., Robert C. Winthrop, Edward Everett, and Daniel Webster! Mr. W. has been President of the Norfolk County Society for six years.

Nor does the preëminence freely acceded to Mr. Wilder result from the fact that he is in the midst of small men in the department of agricultural reform. It is precisely the reverse. Anywhere else, almost, many of his associates would be head and shoulders above all competitors. Among his near neighbors, and in the same small county of Norfolk, are Messrs. Samuel Walker, known and acknowledged as a host in himself, anywhere and everywhere; Benjamin V. French, the great APPLE KING, and one of the best and most intelligent farmers in the State; Thomas Motley, Jr., not more distinguished for his splendid cows and other imported animals, than for his equally splendid cultivation, and others deservedly distinguished; and these, with a more numerous list of associates, in different sections of the State, form a body of men, who, for personal worth and personal influence, are not exceeded by those of any other profession.

Let our farmers, as a body, be, and show themselves to be, men—yes, MEN—able to sustain the interests they represent, and then let them demand the *concurrence* of the State or national legislatures in those measures which are deemed of especial importance, and we shall no longer hear such moanings and lamentations from a forgotten or unthought-of and "dumb" portion of the community.

In 1851, on the formation of the Massachusetts Board of Agriculture, Mr. Wilder was elected its first presiding officer. At the formation of the United States Agricultural Society, at Washington, in 1852, Mr. Wilder was made President, and still holds that office. He also held, for eight years, the office of President of the Massachusetts Horticultural Society, and is still one of its directors. This Society holds weekly exhibitions of fruits and flowers, *the year round*, at Horticultural Hall, in School street, opposite the City Hall, and often collects a large concourse of people to admire the rich display. He is now President of the American Pomological Society. He has also held the office of President of the Massachusetts Senate, and has been a member of the Governor's Council. He has often presided over large deliberative assemblies, and always with remarkable success.* Who would

* We cut from a Boston paper the following paragraph:

"UNITED STATES SENATORSHIP.—We regret to learn that the Hon. Marshall P. Wilder, whose name has been prominently before the public for this office, desires not to be

not covet such distinctions rather than the noisy honors of a mere politician? The most popular achievements of the latter are often of little permanent value, sometimes positively harmful, and seldom last beyond a brief term. Such honors as we have depicted are incorporated in the very soil, bloom in the flowers, and bear fruit year by year. Even the child who enjoys these luxuries, which are often appropriated as a daily lunch, has occasion, day by day, to give honor to such men. They have their reward. They will not soon be forgotten. His virtues have a practical existence, benefiting and ennobling the whole community, and his name will fill a page in history that will suffer no detriment by the lapse of years, and which will have its interpreter on every hill-side, and in every valley where rural taste and refinement are found.

Perhaps we can not better occupy the space devoted to this subject, than by presenting the following extract from the well-written and truthful sketch referred to on a preceding page. After giving a very commendatory account of Mr. W., but more especially as a merchant, the writer proceeds thus:

"You pass through Roxbury to his place, which is the first house in Dorchester, on the road to Milton and Quincy. It is called Hawthorne Grove, and is one of the most delightful suburban residences in the vicinity of Boston.

Here he conducts you to the plants which you are curious to examine, and speaks to you of their history and habits. He guides you through his conservatories, deservedly ranked among the best furnished in the country; and with the plants therein he appears as familiar as Cyrus was with the soldiers in his vast army, calling them by name, and giving at pleasure their locality and family connections. We will suppose that you pass on through these conservatories into his garden, tastefully laid out and adorned, and thence into his nurseries, which cover about ten acres in the highest state of cultivation, and which contain many thousands of young fruit trees, particularly the pear. For the last species of fruit his grounds are as distinguished as his green-houses are for the best varieties and the most extensive collection of camelias. Of the pear, he has exhibited, at one time, three hundred and seventy-five varieties.

When you have accomplished the object of your mission and taken your departure, reflection suggests the inquiry how a gentleman engaged in a mercantile business so extensive, can have acquired a fund of information so varied and extensive, a knowledge so profound of the sciences of horticulture, agriculture, and kindred arts. A word of caution is needful before we answer this question. It may not be wise nor safe for every merchant to prosecute so many and such varied subordinate pursuits. Singleness of purpose and concentration of energy are the general rules of success. All have not the same versatility of genius, the same adherence to system, the same inclination, taste, and indomitable perseverance. Each must study himself, and thus ascertain what he can attempt with safety, and with a reasonable prospect of prosperity and happiness. So much variety in the objects of pursuit, while it would probably distract or perplex most persons, would utterly disqualify some for business, and insure their loss of health, fortune, and life.

A more familiar acquaintance with Mr. Wilder's natural endowments and

considered a candidate. In common with his numerous friends, we sympathize tenderly with him in the repeated domestic bereavements with which he has been visited the last year; and especially in the recent affliction under which he now mourns the recent death of a son. His decision is one which our readers, many of our merchants, and the farmers throughout the country, will deeply regret."

private habits, discloses the manner in which he has been enabled to make so extensive attainments, and to pursue objects so various. Blessed by nature with quick perceptive faculties, and unusual versatility of mind, he acquires with ease and rapidity, and readily applies his acquisitions to his numerous and varied employments. Besides, he is a rigid economist of time, a close adherent to system. Every hour has its appropriate business, which is attended to in its appointed season. In the evening, and at early dawn, he is in his well-selected and valuable library, either investigating subjects which the labors and scenes of the past day have suggested, or planning the business of the approaching day.

When his gardeners, nurserymen, and others employed on his place present themselves at however early an hour in the morning, his rule is to meet them, and assign to each company its appropriate business, under its respective foreman, who receives the requisite instruction and orders. Away they go to their work, and he returns to breakfast with his family, and with them to acknowledge the Giver of all their mercies.

Next he goes forth to see that each man is at his post, performing his duty in the best manner, to drop a word of encouragement to the industrious and faithful, and by his own example to encourage and instruct them, now training a vine or giving a finishing touch to a bouquet, then wielding the spade or the pruning-knife, hybridizing a camelia, planting a tree, inserting a bud, sketching a flower, or gathering the first fruit of a new variety of pear for subsequent study, delineation, and description. At ten o'clock, or thereabout, he doffs his garden robes, and is attired—in his carriage—and on his way to Boston, where the rest of the day is devoted to his mercantile business. This system he has steadily pursued for a long course of years; and in his strict adherence to it lies the secret of his success, and of his elevation to the distinguished position which he holds as a merchant, a horticulturist, and an agriculturist.

Hitherto we have spoken of him principally in the first of these capacities. But we must also notice his progress in the others, related to the former in his multifarious business, as the planets to the central orb around which they revolve.

When Mr. Wilder moved from Boston to his present residence, he was associated with gentlemen of taste in the Massachusetts Horticultural Society, with such men as Dearborn, Phinney, Fessenden, Lowell, Manning, Story, Everett, and Webster, and with others of fair fame who still live. The object of this organization was the promotion of horticulture; and as a means to that end, it contemplated the publication of its transactions, a library, exhibitions of fruits and flowers, an experimental garden, and a rural cemetery. The two latter of these it sought to realize by the purchase of Mount Auburn. But many of the proprietors in this *Pere la Chaise* of America felt little interest in the legitimate object of the Association. At length it was deemed expedient to give exclusive control of the Cemetery, while the original organization should confine its efforts to horticulture.

But a large sum had been invested in this purchase, and a considerable annual income was accruing from the sale of lots. On the motion of Mr. Wilder, the terms for the separation of the cemetery interest from the Horticultural Society were referred to a joint committee, and after much deliberation were agreed upon. By these, the Horticultural Association received one fourth part of the income of the Mount Auburn Cemetery from the sale of lots, an arrangement that has proved in the highest degree beneficial to both

bodies, and for which the Horticultural Society are much indebted to Mr. Wilder and his associate, Hon. Elijah Vose.

In 1840, he was elected President of the Massachusetts Horticultural Society, an office which he filled with honor to himself and to that Association for eight years. During his administration, it greatly increased in the number of its members, in its resources, usefulness, and respectability. It erected its beautiful hall in School street, at the laying of the corner-stone and the dedication of which he delivered appropriate speeches.* It held two triennial festivals in Faneuil Hall, occasions which congregated the *élite* of city and country, and which will long be remembered for their luxurious entertainments, and for their soul-stirring speeches from Webster, Everett, and other chief masters of eloquence. When he retired from the office, the Society accompanied its resolutions of thanks with a silver service, as a substantial testimonial of its gratitude for his valuable labors.

Both before and since that period, he has contributed largely for the advancement of pomology by the annual importation of fruit trees from the chief European cultivators; by the encouragement of nurserymen; by the cultivation of trees and plants in variety in his own grounds; by his extensive correspondence with fruit-growers; and by his addresses and communications devoted to this interest. Hence, upon the organization of the American Pomological Society, a national institution, embracing the various States and territories of our Union, he was elected President of that body, an office to which he has been elected for the third time.

At its session in Philadelphia, September, 1852, he delivered, by appointment, a most eloquent eulogy on the life, labors, and death of his intimate friend, Andrew Jackson Downing, the great rural architect and landscape gardener of America, who perished in the conflagration of the steamer Henry Clay, on the twenty-eighth of the preceding July; a gentleman who was an honor to his country, and was honored by her, and was distinguished on both sides of the Atlantic for his numerous publications and valuable services.

The closing paragraph of that production we will quote as an illustration of the force of Mr. Wilder's diction, the beauty of his style, and the range of his thoughts:

'Downing is dead! Yet how little of such men can perish! The clayey tenement may indeed fall and crumble; but to him who dwelt in it, a place is assigned in the firmament of American genius, far above the storms and convulsions of earth, in that clear upper sky, where he shall shine for ever to illumine the path of intelligence, enterprise, and virtue, and henceforth to enkindle in the human mind a love of order, taste, and beauty. We rank him with those who start improvements which advance ages after they are dead, and who are justly entitled to the consideration and gratitude of mankind. Washington and his illustrious associates are dead; but the liberty which they achieved still lives and marches in triumph and glory through the earth. Franklin is dead; but the spark which his miraculous wand drew from heaven speaks with tongues of fire and electrifies the globe. Fulton is dead; but he awoke the spirit of invention which turns the machinery of man—aye, he awoke also the genius of navigation—

'And heaven-inspired
To love of useful glory, roused mankind,
And in unbounded commerce mixed the world.'

* See its Transactions for 1845.

Downing also is dead ; but the principles of artistic propriety and ornament, of rural economy and domestic comfort, which he revealed, await a more full and perfect development ; and as they advance toward their glorious consummation, grateful millions will honor and cherish his name. His memory shall live for ever.*

At the recent meeting of the Pomological Association in Boston, Mr. Wilder was reelected its president, and delivered an able address on the arts of cultivation, and other topics, embodying the results of his long and valuable experience.

In conclusion, he exhorted the members to diligence and perseverance, and said : "Gentlemen, go on. Prosecute the work you have so honorably commenced. Sow the seeds of your best fruits, raise new varieties, ply the arts of judicious cultivation, study the laws of nature, and extend your researches and labors, till our beloved land shall be adorned with orchards, vineyards, and gardens, and man shall realize the poet's idea of Paradise Regained."†

During the sessions, which lasted three days, Mr. Wilder gave a magnificent Pomological Levee, at which about two hundred gentlemen were present, including his Excellency the Governor of the Commonwealth, and other distinguished guests. The editors of the *Horticulturist*, in their description of the occasion, say : 'The table was the richest and most tasteful we have ever seen ;' and this was the expression of many who have attended the most brilliant affairs of this kind ever given in Boston. The occasion was free from formalities. Sentiments were given by the host, and responded to in brief speeches. At the close of the session, Hon. Mr. Benson, M. C. from Maine, proposed the following resolution :

'Resolved, That the thanks of the Society are most cordially presented to the President, Hon. Marshall P. Wilder, for the prompt, able, and impartial manner in which he has presided over its deliberations ; and we hereby assure him that the members will long cherish a lively recollection of the pleasure enjoyed at his bountiful and brilliant festive entertainment with which he complimented the Society.' "

We do not prepare this paper so much for the purpose of doing justice to the subject of it—the testimony is not shut up in our pages—but partly because it is a most pleasing task, and still more because we would add our little word of encouragement to those who, with strong powers, and perhaps not unfavorable circumstances, have it in their power, with the blessing of Heaven, to exercise an influence on their associates and successors that shall one day work out an earthly paradise.

FOR THE PLOUGH, THE LOOM, AND THE ANVIL.

CORN IN NEW-HAMPSHIRE.

MESSRS. EDITORS : The cultivation of Indian corn does not receive the attention that it deserves from the farmers of the North. It might rank next to the grass crop, which is undoubtedly the first in the Northern States. It is not an uncommon thing to hear sensible farmers talk about its costing one dollar per bushel to produce this grain, but this talk is all moonshine. No one that has kept debt and credit will make such a statement. Large crops

* Proceedings at American Pomological Congress, 1852. † Transactions for 1854.

of this grain can be produced among the rugged hills of New-Hampshire, by judicious cultivation, and with less injury to the soil than is occasioned by most other white crops, while it furnishes the largest amount of feed for stock, which can be returned back again to the soil in manure.

The unprecedented drought of the past season reduced our crop of corn, perhaps one third from that of the previous year, which was uncommonly large, ranging from thirty to over one hundred bushels per acre in our vicinity, on well-cultivated land.

Since my remembrance, our vicinity furnished corn for market. Now they buy largely, while the soil is equal to any in the county of Rockingham, for producing this grain. We might and ought to produce our own bread, if we would but come up to the work. What has been done can be done again. Good soil is a good thing, but good cultivation is better.

Our opinion is, that manuring for a series of crops for the raising of this grain is the best system, all things considered. Corn is a great feeder, and is seldom injured by high manuring, as some other crops are. Our system is, spread on the sod, and plough in late in the fall. On land that is liable to wash, and of a dryish order, the furrow should run across the slope to prevent it from washing. On moist land, plough in the fall; in the spring, cart on and spread a good coat of fine manure, and give it thorough harrowing. About the 20th of May, plant and keep clean through the season. Allow no weeds to seed. The next year, sow to wheat and clover, then three or four years in grass, then plough and manure again, and plant to corn. The advantage of this system is this: The corn takes off the heat of the manure; the manure assists in readily decomposing the vegetable fibre in the soil, and hastens on the crop to maturity, so that it escapes the early frosts, while a crop sparingly manured will be a week or two later, and may be caught by the frost.

The second year the land is in fine condition for a crop of wheat, nor will it be so likely to mildew as newly-manured land will. If it would not be out of place, we would state the cost of growing a patch of corn the past season, by estimation one acre:

56 bushels of corn,	- - - - -	\$67 20
Top stalks, etc.,	- - - - -	25 00
Whole value of crop,	- - - - -	\$92 20
Whole cost of cultivation, interest on land, taxes, etc.,	- 32 50	
Net income,	- - - - -	\$59 70

By the unprecedented drought, this crop was injured at least one third from what it would have been, if we had had rain in the proper time. The stalks were topped the last week in August, and harvested the third week in September. The manure on a part of the piece proved an injury, owing to the drought. We do not say that this is a great crop; but, under all the unfavorable circumstances, it is a paying one. The land is, at least, worth twenty per cent more for the four next succeeding crops, than it was before it was ploughed.

D. L. HARVEY.

Epping, N. H., January, 1855.

FAT HOGS.—David Robinson, of Russel, Geauga Co., sold in our market the other day three hogs weighing 421, 480 and 680, respectively. The last was a huge animal.

FOR THE PLOUGH, THE LOOM, AND THE ANVIL.

CROPS IN VIRGINIA.—SOUTHERN PLOUGHS, ETC.

MESSRS. EDITORS: Since my communication of the 6th ult., we have had an open winter, with little or no snow. The first two weeks of December were cold, giving a good supply of ice, and the ice-houses were generally filled. The last forty days have been unusually pleasant for winter months, and have been very favorable to our stock. Sheep, up to this date, have scarcely been fed at all. My flock has not been fed a handful of any thing, and have given me no trouble, further than salting once a week. My cattle have not consumed half the usual quantity of feed; and should the close of the winter months continue favorable, we will be enabled to get through winter full as well as in years past, when plentiful crops were made.

The farming community have availed themselves of the open winter, and much ground has been ploughed for the corn crop. The Virginia State Agricultural Society is to have a good influence on the farming community. We are getting to plough better than formerly, and more attention is paid to a regular rotation of crops; and there is more attention paid to good stock. Horses, cattle, sheep, and hogs are better attended to than formerly. The three-horse plough is in more general use; most of our best farmers use it. The ground is deeper and better ploughed, which saves our rolling lands from being as badly washed as under the old practice. Our lands also stand a drought much better from being deeply cultivated. The subsoil plough is but little used as yet. We have no good plough of this description amongst us, so far as my knowledge extends. We have two kinds of hill-side ploughs: one invented by Bradley, and one introduced by Messrs. Leyburno, and now manufactured by Messrs. Taylor & McDowell, all of our county, which do pretty good work. The best plough we have is one introduced some fifteen years since, of various numbers, from 1 to 4, by S. Bradley & Co., and called the Livingston Plough. It is simple in its construction, and can be kept in order by any ordinary ploughman. They are also cheap, ranging from \$4 to \$8.50, *cash*, for one, two, and three horses. They have been put in competition with many of the best ploughs from the North; and our real practical men say, taking all things into account, they are equal, if not superior to and plough ever introduced here. The cutters and land-sides, when worn out, are easily replaced, and with a wooden pin that any one can make, are firmly fitted and as good as new, till the mould-board is worn out. They are entirely of cast-iron, except the beam and handles, with two or three pins. This plough is not easily broken, but may be butted up against fixed rock without danger. More ploughs are broken by inexperienced ploughmen, by trying to slide over rocks, than in any other way. A good ploughman, with a steady, firm hold on his plough-handles, butts up against a rock or stump, then draws back, and starting slow, with a steady team, ploughs all his ground, and rarely breaks a plough. But if you hop from rock to rock, to save the plough, you often split the mould-board, lose half a day in going to the foundry for a new one, and paying \$1 to \$2 to repair damages. There are many other good ploughs in our valley, and I have examined samples manufactured in Richmond, Baltimore, the States of Massachusetts and New-York—ploughs that cost more money, and withal more complicated—yet I have seen none that I consider superior to the Livingston County plough. The left-hand plough is generally in use with us. This plough took a pre-

mium at the cattle show and fair, held at Syracuse, September 29th and 30th, 1841.

We have had quite a gale since 2 P.M. yesterday, 21st; heavy rain, last night, with thunder and lightning. The mercury is falling. From noon yesterday till noon to-day the mercury has fallen 26° , and still going down. Annexed, I send you the state of the mercury at daylight, since 1st December, 1854:

December 1, 28°	December 19, 26°	January 6, 38°
" 2, 32	" 20, 12	" 7, 54
" 3, 33	" 21, 30	" 8, 36
" 4, 26	" 22, 20	" 9, 35
" 5, 16	" 23, 26	" 10, 36
" 6, 17	" 24, 34	" 11, 32
" 7, 32	" 25, 44	" 12, 42
" 8, 14	" 26, 50	" 13, 50
" 9, 15	" 27, 50	" 14, 22
" 10, 26	" 28, 48	" 15, 24
" 11, 38	" 29, 38	" 16, 32
" 12, 34	" 30, 16	" 17, 33
" 13, 38	" 31, 34	" 18, 40
" 14, 35	January 1, 31	" 19, 25
" 15, 32	" 2, 30	" 20, 34
" 16, 32	" 3, 36	" 21, 40
" 17, 38	" 4, 44	" 22, 27
" 18, 36	" 5, 44	" 23, 16

Your obedient servant, etc.,

HENRY B. JONES.

22d January, 1855.

CHEMICAL EXAMINATION OF THE COB OF MAIZE.

BY J. H. SALISBURY, M.D.

It is well known that the manure of an animal varies in quality with the food which it eats; and that, generally, manure is richer in nitrogen bodies, and less rich in non-nitrogenized matter than the food consumed. Probably a greater proportion (though I do not know as this has actually been demonstrated) of 100 lbs. of nitrogen bodies would be assimilated by the system, if it were mixed with 500 lbs. of non-nitrogenized matter; and still more, if mixed with 1000 lbs., than if taken into the system undiluted or alone. It should be borne in mind that it is as essential for food to contain bodies destitute of nitrogen, (such as starch, sugar, oil, etc.,) or those that go to support animal heat and respiration in the body, as it is to have nitrogen compounds to nourish or supply the waste of the living tissues. Hence, food suited best to sustain animal life, is that which is made up of these two classes of bodies mixed in the proper proportion. And a deficiency in the one is equally as deleterious to the healthy existence of the animal, as a deficiency of the other; therefore we can hardly say that one of these classes is in reality more essential to the maintenance of life than the other. They both seem to perform equally important offices. If this view be taken, the cob can not be regarded as deficient in those bodies which contribute to respiration and nutrition. The following table shows about the amount of the seve-

ral proximate organic bodies thrown away in rejecting the cob, calculated from the analysis of the small white flint variety; 1000 lbs. of ears contain not far from 200 lbs. of cob and 800 lbs. of grain. These contain the following bodies in the following proportions, expressed in pounds and decimals of a pound:

	200 lbs. cob.	800 lbs. grain.	1000 lbs. ears.
Sugar and extract, - - - - -	13.582	115.320	128.902
Starch, - - - - -	.003	487.384	487.387
Fibre, - - - - -	127.687	7.712	135.399
Oil, - - - - -	....	39.824	39.824
Zein, - - - - -	....	31.856	31.856
Matter separated by potash from fibre,	45.404	51.856	97.260
Albumen, - - - - -	1.518	37.136	38.654
Casein, - - - - -	.288	.688	.976
Dextrine, or gum, - - - - -	2.310	28.224	30.534
Resin, - - - - -	1.806	....	1.806
Glutinous matter, - - - - -	7.402	....	7.402
	200 lbs.	800 lbs.	1000 lbs.

In the above table, the inorganic matter is not separately considered, it being distributed among the several organic bodies. By rejecting the cobs of 1000 lbs. of dry ears, about 200 lbs. of organic matter is lost, which consists of $13\frac{1}{2}$ lbs. of sugar, and extract $127\frac{1}{2}$ lbs. of fibre, $45\frac{1}{2}$ lbs. of matter, separated from fibre by a weak solution of potash, $1\frac{1}{2}$ lbs. of albumen, .288 of a pound of casein, 2.31 of gum or dextrine, 1.8 lbs. of resin, and 7.4 lbs. of glutinous matter. Hence the cob, though not rich in nutritive matter, can by no means be said to be destitute of those proximate principles which go to support respiration and sustain animal heat, and those which are capable of being transformed into nerve, muscle, etc., and the phosphates which contribute so largely to the formation of bone.

CORN STATISTICS IN FRANCE.

The *Siecle* says: "According to the latest statistical returns, the crop of every kind of corn in an average year in France now amounts to about 180,000,000 of hectolitres. In wheat, our country produces 60,000,000 of hectolitres; rye, 26,000,000; barley, 19,000,000; *Metiel*, (a mixture of wheat and rye,) 1,500,000; oats, 40,000,000; buckwheat, 8,000,000; maize and millet, 7,000,000; small grain, pulse, etc., 2,500,000. The crop of wheat is, therefore, in the proportion of 60 to 180; that of oats, 50 to 180; and that of rye, 23 to 180; that is to say, these three descriptions of corn compared with all the others, are in the proportion of 103 to 77 only. This quantity of 180,000,000 of hectolitres of corn is not all consumed; deducting 25,700,600 hectolitres, for seed, there remains 154,300,000 for the general consumption. As, however, oats, the net production of which is 39,250,000 hectolitres, can not be reckoned as human food, we find that the quantity remaining for the food of the people is 115,050,000 hectolitres. If we now take the different crops by weight, which is the best manner of estimating the nutritive value of each, it may be said that the average weight of wheat is 75 kilogrammes per hectolitre, that of rye 65 kilogrammes, barley 60 kilogrammes, *Metiel* 70 kilogrammes, buckwheat 60 kilogrammes, maize 78 kilogrammes, and dry pulse 80 kilogrammes. It follows, therefore, from these bases that with 51,500,000 hec-

tolitres of wheat, weighing 3 millards of kilogrammes, and the other quantities of corn in proportion, we have a total weight of 8,046,800,000 kilogrammes of corn fit for consumption of man. It has been calculated that on an average including women, children, and old people, it requires 220 kilogrammes of corn per year for the food of one person. This would, therefore, be for France, where the population is reckoned at 36,000,000, a total of 7,920,000,000 kilogrammes. If, therefore, from 8,046,800,000 kilogrammes calculated, as above stated, for human consumption, there be deducted the 7,920,000,000, which suffice for the consumption of France, the following result which must be satisfactory to every one, is come to—namely, that France, in an average year, has a crop of 127,000,000 kilogrammes of corn beyond the wants of the people, and that she could still feed 600,000 inhabitants more than the present number of her population."

FLOWERING OF FRUIT TREES IN 1854.

We copy the following interesting table from the *American Almanac* for 1855. The work is replete with useful information. See our Notices of New Books.

PLACES.	PLUM.	PEAR.	PEACH.	CHERRY.	APPLE.
Cambridge, Mass., .	April 30	April 30	May 3	May 5	May 10
Woodstock, Vt., . .	May 10	....	....	May 15	May 22
New-Haven, Ct., . .	....	....	April 25	....	May 6
Lambertville, N. J., .	....	....	April 24	April 24	May 1
Perth Amboy, N. J., .	April 30	....	April 25	April 27	May 23
King George Co., Va.,*	....	April 8	Mar. 17-22	April 5	Ap'l 15
Savannah, Ga.,† . .	Feb. 15	....	Feb 15	....	Mar. 1
Muscatine, Iowa, . .	May 3	May 6	May 3	May 1	May 8

* The fruit was generally killed by the excessive cold weather in April, after a very mild March. Snow and ice, April 15; frost, May 1.

† Frost, early in April, killed the early fruit.

HEREDITARY SPAVIN—CAUSE, ETC.

The following article on "Hereditary Spavin in Horses," is taken from the London Farmers' Magazine :

Spavin and other Ossific Enlargements, the predisposition to which may be either constitutional or local, are composed of the earthy matters of bone, chiefly invading the tissues low in the scale of organization, such as cartilage and fibrous cartilaginous substances; injuring the structure and functions of the parts, by rendering them rigid and inelastic; and causing partial or complete lameness, depending on the situation and extent of the deposition.

It is perfectly well ascertained that the progeny of some horses inherit a constitutional tendency to splints, spavins, ring-bones, and other bony deposits, without exhibiting any peculiar conformation of limbs or joints to account for it. There are instances of an *ossific diathesis*, transmitted from parent to offspring; but, on the other hand, this hereditary predisposition more commonly depends on faulty or peculiar conformation.

Thus horses most disposed to *spavins* are those possessing short pointed hocks, deficient in width and breadth below, and disproportionately small, compared with the upper portion of the joint. Those most disposed to *ring-bones* are horses with upright pasterns and high action; and those most

liable to *ossified cartilages* are the heavy draught breeds; so much so that it is no uncommon case to find the cartilages of the feet of horses of this character changed into bone at four and five years old. The reason of this is evident enough; concussion is easily produced in the joints of the character of horses described; inflammation of a slow chronic kind follows as a natural consequence, and osseous effusion is the result.

There is no difficulty in establishing the hereditary character of those diseases. Taking spavin as an example, we have numerous and unquestionable cases to produce. Some ten or a dozen years since a spavined thoroughbred stallion served mares in the neighborhood of Truro, and in a few years afterwards it was really astonishing to see the number of his stock that were similarly diseased. One striking circumstance connected with this horse is much to the purpose. A half-bred mare, one of the stock, exhibited spavins at four years old, and, becoming unfit for fast work, was kept for breeding purposes and occasional work on the farm. Two of the mare's stock also exhibited spavins in a short time after the breaking.

There is a curious case recorded in the Veterinarian, by Mr. Percivall, of a thorough-bred horse, called Dominie Sampson, that had run very successfully on the English turf, and, although fired in both hocks, was inconsiderately purchased for the East India Company, and was sent out as a covering stallion to the stud at Buxar, where for years he had forty mares annually, and the whole of which generally proved with foal, but were affected either with curbs or spavins, and only *one* of his stock was passed into the cavalry; consequently he was discharged from the stud.

Curbs are frequently found in horses exhibiting the character of hock described in the last example, and are generally caused by injury of the annular ligament from over-exertion, producing swelling and inflammation about three inches below the point of the hock formed by the *os calcis*. The peculiar form of this bone appears to be connected with the cause of the disease. Its chief purpose is to act as a lever for the action of very powerful muscles, the tendons of which are inserted into its extremity, and in proportion to the projection of this bone will the muscular energy be increased by which the joint is moved. On this account its length is a matter of considerable importance. It is supposed also to assist indirectly in supporting the superincumbent weight with the other bones of the hock, and materially assists in preserving these parts from the effects of concussion. But when the *os calcis* is short, forming a pointed hock, the leverage or mechanical power is injuriously diminished, leaving too much for the other parts of the joint to perform, and concussion is the common consequence, followed by inflammation and lameness, sometimes connected with curbs, at other times spavins or thorough pins; and it is not an uncommon case to see all three of these diseases in the hock at one time. There are other formed hocks, which even more dispose to curbs than the one just mentioned; such are the "sickle-hock" or "cow hock." We can scarcely name any disease of the horse which affords stronger evidence of a hereditary tendency derived from peculiarity of structure than the one we have been considering.

ITALIAN RYE-GRASS.

THIS grass, recently introduced into the United States, is either a native of Italy or Germany, and is probably perennial. It differs from the common kinds of rye-grass in many botanical particulars, which it is needless to enu-

merate, and which are only intelligible to the scientific eye; but to the ordinary observer, it differs very perceptibly in presenting a darker green color, and in having much more abundant and broader foliage. It very commonly attains the height of four feet, and sometimes more, and is not inclined to spread on the ground. If sown in September, it may be cut in the following May; and if sown early in March, it will yield a heavy crop in July. Whether given as green food or converted into hay, it is eaten with avidity by cattle, which have, in various instances, manifested their preference of it to the common sorts, which is accounted for by its superior succulence and softness. It braids much quicker than any other species of rye-grass known to us, arrives sooner at maturity, and is in every respect superior to all of them. As it overpowers clover if sown with it, it is useless to sow them at the same time; and the only chance of their doing well together would be on poor soil, where the vacancies between the turfs of rye-grass might be filled with clover, to be available in the second or third mowings. It is sown in the usual way after a harrowing, and covered with a bush-harrow and a roller, and the quantity of seed for clean ground is about twenty-one pounds per acre. Among its other good qualities, it is found to withstand the influence of frost better than any other varieties of grass. In a word, it is a decided acquisition to our agriculture.—*Genesee Farmer*.

This growth is very highly commended by those who have had extensive experience. Two or three growths may be cut in a single year. For soiling it is very superior.—[Ed. P., L., & A.]

FOR THE PLOUGH, THE LOOM, AND THE ANVIL.

ARTIFICIAL MANURES.

MESSRS. EDITORS: I have noticed, with much pleasure, the prompt and decided stand you have taken in some of your late numbers, in exposing the frauds that are practised in the manufacture and sale of artificial manures. Every farmer who has made, or intends to make, use of these manures, will, no doubt, feel their obligations to you for the exposure you have given, and which will, in all future purchases, keep them on the look-out for frauds, to which they are so often exposed.

From the article in your last issue, it appears that in an instance where the purchaser complained to the vender of the impurity of the article bought, he was consoled by the soothing assurance that it "contained the quantities suitable for plants." How kind it was in this vender to get up the article in just the right proportion, and mix in so much foreign matter that "*the plants*" should not get an over-supply of that which was, no doubt, cracked up loudly as something essential to their healthful growth!

Now, after many years' experience on the farm and among manures, we have never seen an instance where farmers could not apply substances beneficial to the soil in just the right quantities for plants, without being at the extra expense arising from the purchase of adulterated articles; and we know of no reason why such unwarrantable frauds should be practised without exposing their perpetrators to such punishments as swindling of the baser sort demands.

What would be the result if the farmer should adulterate the articles of produce he sends to market? In the first place, he would have to restore to

the purchaser all moneys he received over the actual value of the article sold and if he escaped without paying heavy damages for the imposition practised, he might think himself fortunate; and then, if such frauds became common, laws of greater stringency would be passed in order to overcome such evils. All this would be right—for farmers, like all others, should be honest; and when they show an inclination to the contrary, it should be checked, so that, whatever temptations may await them, the power of law, where their own love of right would not do it, should keep them in their legitimate bounds.

The same rule should apply to men in other employments. The farmer should be protected from frauds as well as other men are, and in the manures he purchases, as well as in other things; for what he suffers in these matters arises from a failure in his harvest, and, of course, in the loss of hard labor, as well as in the cash he pays out for valueless, useless property, and through his sufferings the community must suffer from deficient crops.

It is apparent enough, that the evils of these frauds in artificial manures are, in each successive year, becoming more and more common in our country, and all under the *pretense* of benefiting the farmer.

We know of but two ways of remedying this evil: One is to make it a penal offense for any one to manufacture or sell adulterated artificial manures, and to carry out this, a responsible and intelligent inspector should be appointed for every mart where such manures are offered for sale, whose duty it should be to brand every parcel just in proportion to the purity of the article it claims to be, whether first, second, or third quality, beyond which it should be condemned.

In the second place, farmers should look more to their own resources, and less to the manufactures for the means of improving their soils. Where is the farmer, in all our country, that avails himself of all the means at his command for increasing both the quantity and value of his manure-heaps? What wastes of some sort are to be found, even on premises the most economically managed! How far can the manures offered as merchandise in the market be manufactured at home, at less expense than they cost, and of a superior quality?

These are questions for each farmer to answer; and in looking over the matter, the mass, if not all, we are sure, will find that available means, not hitherto adopted, are within their reach of increasing their crops, and beautifying their lands with luxuriant vegetation without having recourse to swindlers and speculators, who, without conscience or remorse, will turn them off with catch-penny commodities under the assumed names of fertilizers!

Yours truly,

W. B.

FOR THE PLOUGH, THE LOOM, AND THE ANVIL.

CULTIVATION OF SANDY SOILS.—LONG-ISLAND.

MESSRS. EDITORS: A large portion of the soil of the country is of this class, and very little of it is under what may be called good cultivation. The greater part is managed on the skinning or starvation system. That these soils possess many advantages, has been long acknowledged by those who have given the subject the least consideration, whilst their peculiar adaptation to the culture of root-crops is now generally admitted. The absence of alumina and their porous character rendering them unable, in a great measure, to retain moisture, the best portions of manure are lost, either by percolation

or evaporation; and hence has arisen a great objection to the cultivation of this class of soil, which their cheapness, ease of tillage, and facility for raising early crops, do not seem to have obviated. And yet that such soil can be well and profitably cultivated has been long known; witness the barren sand of Belgium and the estates of Coke and Hatherton in England, or, nearer home, the blowing sand near Albany, and some small portions of Long-Island. Their adaptation also for sheep husbandry is well known; and yet, within a few miles of this great city are thousands of acres, every way capable of supporting immense flocks, with not a sheep on them. I have been led to make these observations from a recent trip on the Long-Island Railroad, when, in the space of about fifty miles, I did not see that number of sheep; and, as a friend with me observed, on passing Hempstead Plains, here are the Downs, but where are the South-Downs? Certainly not there. A great many sheep, I understand, are raised on the north side of the island, and the stock is generally improving; Wm. Becar, W. W. Mills, and J. Smith having some fine flocks. Still they are the exception, not the rule, and it is the latter that we want. The growing taste for mutton, and the high price a good article will always command, we think should stimulate the farmers of Long-Island to push forward in what I consider a profitable branch of husbandry; and instead of being satisfied with raising from eight to ten bushels of rye to the acre, and then carrying the straw off the farm, consume it on the farm, and not rest satisfied till they can, from the same land, raise from five to six hundred bushels of turnips. That this can be done, we will endeavor, at some future time to show.

L.

ATLANTIC COTTON MILLS, LAWRENCE.

President—J. Wiley Edmunds.

Treasurer—Wm. Gray.

Agent—Henry K. Oliver.

Directors—Abbott Lawrence, Nathan Appleton, John A. Lowell, G. W. Lyman, J. W. Edmunds, George H. Kuhn, Wm. Gray.

Superintendent—Jos. P. Battles.

Paymaster—Samuel C. Oliver.

This Company was incorporated in 1846. Its capital is \$1,800,000, divided into 1800 shares, of \$1000 each.

Ground was broken for the erection of these mills in 1846; and in May 1849, mill No. 1 went into operation. The mills which are situated between the Pacific and Bay State, in ward 3, are popularly designated as Nos. 1, (west building,) 2, (east building,) and 3, (centre.) The centre or main building was erected subsequently to Nos. 1 and 2, and between them, and they now form one connected structure 577 feet in length. Nos. 1 and 2 are each 220 feet in front, 64 feet wide, and five stories high, including basement, beside attics. The height of each is 65 feet to the eaves. The centre mill No. 3, is 137 feet in length in front, 123 feet in rear, and 100 feet wide. It is six stories high, including basement, or 78 feet to the eaves. Exclusive of these buildings, are two picker-houses 75 feet, 8 inches, by 53 feet, 4 inches, and three stories high; two cotton-houses; No. 1 being 200 feet in length, 50 feet in breadth, and 25 feet in height; No. 2, 120 feet in length, 50 feet in breadth, and 25 feet in height; these buildings are capable of holding 10,000 bales of cotton; a waste-house, 80 feet long, 23 wide, and 15 high;

a boiler-house, 42 feet square, with coal shed attached, 62 feet by 42. It has at present four boilers, but is capable of containing six; steam-chimney 150 feet in height. Canal building, 905 feet long, 40 feet wide and two stories high, exclusive of attic.

The counting-room is in the canal building, and beside a general reception-room, contains the respective offices of the agent, superintendent, paymaster, and clerks.

In the same building is the repair-shop, including iron, carpenter, and blacksmith shops; also a store-room and cloth-room. The building contains in addition, a 15-horse power steam-engine.

In the repair-shop 48 men are employed, under the superintendence of John S. Stafford, head-machinist, and Perley Ayer, head-carpenter. In the cloth-room 20 hands are employed under the direction of Lewis Young, overseer. The number of out-door hands is 25, of which Artemas Harmon is overseer.

Mills Nos. 1 and 2 each contain a carding-room, spinning-room, dressing-room, and upper and lower weaving-room, with the following number of persons employed in each, namely:

Total number of males employed in Mill No. 1, 61; females, 290. The average amount monthly paid to males in this mill is \$1800; to females, \$4000.

Total number of males employed in Mill No. 1, 60; females, 281. The average paid monthly for wages is, to males 1800; to females, \$4000.

Total number of males employed in Mill No. 3, 84; females, 226. The average amount of wages paid monthly to males is 2100; to females, \$4100. The whole number of males employed by the corporation is 307; of females, 707; and total employed, 1104.

MACHINERY.—These Mills are thoroughly supplied with machinery of the most approved kind and in best order, as follows: No. 1, 1 whipper; 3 calvert-openers; 8 pickers; 78 breaker cards; 62 finishers' cards; 2 lappers; 1 lap-winder; 14 railways; 12 drawing frames; 13 speeders, carrying 258 spindles; 19 stretchers, carrying 936 spindles; 54 warp frames, with 128 spindles each; 50 filling frames, of 128 spindles each, and averaging 13,312 spindles; 18 warpers; 10 dressers; 398 looms.

Mill No. 2 contains the same machinery as No. 1.

Mill No. 3 contains 1 whipper; 3 calvert-openers; 8 pickers; 76 breaker cards; 74 finisher do.; 2 lappers, one for 42 cards, and one for 34 cards; 8 railway heads for finishers, 8 cards each; 18 fine speeders, 72 spindles each; 88 warp frames, 128 spindles each, carrying 11,264 spindles; 26 mules, carrying 14,460 spindles—a total of 25,724; 18 warpers; 12 dressers; 530 looms. The whole number of looms in the above mills is 1326; of spindles, 52,348.

Beside the machinery contained in the above, there are 3 folding machines; 3 hydraulic presses, and all sorts of machines necessary for repairing at the mills; also for making rolls, banding, belts, etc.

Thirteen thousand bales of cotton are annually used, averaging 450 lbs. per bale. The goods made are Nos. 14 and 24, shirtings and sheetings, of various widths; 285,000 yards are manufactured weekly, or about 15,000,000 yards yearly—equivalent in length, for every year, to eight thousand miles, or one third the circumference of the globe. The power is supplied by three of Boyden's iron Turbine wheels, 8 feet in diameter, and of 500-horse power each. The surface embraced in the mill-site comprises an area of 300,000 feet.

The Company have six blocks of brick boarding-houses, three stories high, exclusive of attics, containing spacious tenements. One half fronts on Methuen street, and the other on Canal street. The houses are built in the most substantial manner, in which taste and convenience are combined. Shade-trees are planted on either side, thus giving them a pleasing and attractive appearance.

In September, 1851, at a meeting of the overseers, a library association was formed, and a library commenced by the donation of one hundred volumes and a loan of fifty dollars from Gen. H. K. Oliver, the Agent. Subsequently \$50 and 24 volumes of *Littell's Living Age* were presented by Wm. Gray, Esq., Treasurer of Mills. Donations were afterward received from Amos Lawrence, Esq., and the Lawrence Tract Society. Recently the directors have appropriated \$500 for the library, and the Company will pay the future expense of the same. It now consists of 1500 volumes, and is annually increasing. It is kept in the Canal building, and is FREE to all in any way connected with the mills.

Much attention has been paid to the social and moral condition of those engaged in the mills, and the agent has been indefatigable in his efforts to promote the best welfare of all concerned. The regulations require a proper observance of the Sabbath, and a regular attendance at some place of public worship. The reception of company, or any rudeness or disorder is strictly prohibited on that day in all the boarding-houses.

Altogether the Atlantic Mills are a model of neatness, order, and excellence. The most perfect harmony exists between the various departments, reflecting the highest credit upon the management of so extensive a corporation. As might be expected, this corporation is in a highly flourishing condition, having for some time past declared semi-annual dividends.

While establishments like the one above described are thus successfully contributing to the national wealth; creating a home market and affording employment to thousands, it is gratifying to know that they are conducted with the highest regard to the best interests of the employed. And so long as the social, moral, and intellectual wants of those connected with them are duly considered and regarded so long should proprietors and agents receive the meed of approbation from an enlightened and intelligent community.

We collate the above statement from a recent number of the *Lawrence Sentinel*. But we are not willing to dismiss the topic without adding our own testimony, from long and intimate acquaintance with the accomplished agent, to his earnest endeavors to promote the welfare and happiness of his operatives, as well as to advance the interests of the Company. When we contrast his policy with what we have sometimes (but thank God, not often) seen in some other establishments, in other places, we are prompted publicly to thank Gen. Oliver for his noble and successful example. God bless him and his, and all who follow in these his footsteps, and let every one of our readers say, AMEN.

POPULATION OF MICHIGAN.—We have before us the population of Michigan, taken this fall by State authority. It exhibits a very rapid growth. All the counties are given except eight small ones, and the number is 518,698, estimating the omitted counties. Four years ago, the census returns made Michigan contains 397,967; increase in four years, 120,731, or 30 per cent. The same rate of increase would elevate Michigan to about 700,000 in 1860.

GOOD COFFEE.

THERE are comparatively few who can prepare a cup of good coffee. In this, as in wines and liquors, the taste of the many is so depraved by use that they do not relish the best specimens. We once knew a country wine-dealer who returned, as unfit for his market, the ONLY cask of imported wine ever sent to him by his city correspondent. It would not be strange if similar wisdom should be developed in the matter of coffee. "Who is to determine what is best?" We suppose they are to decide who are most devoted to the business, and have been longest under the best instruction on the subject. The Chinese best know how to use tea; and those who acquire the art from them are next in order. The Turks have been long famous for their coffee, and so have the French. If any of us do not like such coffee, then we must adopt our own plans. But we can not claim to be the only sensible people on this subject. One might not relish a segar that would be pronounced capital by an old Spaniard, and yet the Spaniard is by far the best judge of what "good" tobacco is. So it is with all artificial preparations. Use may accustom us to think almost any thing "the best." We go against the long boiling of coffee or long steeping of tea. We thereby get an excessive proportion of the *bitter principle*, which is no advantage to the flavor of the beverage. It is not this which abounds in almost every plant that we desire, but it is the peculiar flavor of the berry of the coffee, and of the leaf of the tea. This flavor exists chiefly in its oil, its essential oil. When this is obtained by the use of alcohol, it is called an essence. When this alcohol is taken from the essence, the essential oil remains.

In Knighton's "*Forest Life in Ceylon*," are the following hints on the preparation of coffee, derived from long experience: "The subtle aroma which resides in the essential oil of the coffee-berry is gradually dissipated after roasting, and of course still more after being ground. In order to enjoy the full flavor in perfection, the berry should pass at once from the roasting-pan to the mill, and thence to the coffee-pot; and again, after having been made should be mixed when almost at a boiling point, with hot milk. It must be very bad coffee, indeed, which, if these precautions be taken, will not afford an agreeable and exhilarating drink. Two great evils are constantly perpetrated in England in its preparation, which are more guarded against in almost all other countries, and which materially impair its flavor and strength—keeping the coffee a considerable time roasting or grinding, by which its strength is diminished, and its delicate and volatile aroma lost, and mixing the milk with it after it has been allowed partially to cool."

He who can not indorse this from his own experience, has not entered far into the mysteries of the culinary art, and yet how many families boil their coffee and tea almost by the hour, "so as to get the strength out." We had almost as lief drink an infusion of peas or of rye, as such coffee. Rather than partake of this, we would secure what passes out of the nose of a boiling coffee-pot. This vapor might be passed by a tube into a closed vessel filled with hot water, from the top of which a tube should descend into the liquid, as a safety-valve. After long-continued boiling, we have no doubt that this second vessel would contain a better-flavored beverage than that in the pot; and if the quantity of water was properly graduated, it might not be very weak. It certainly would be worth saving and restoring to the pot.

But when the "coffee" is bought of the grocer, already burned and ground, and then is prepared by long-boiling in a coffee-pot, from which there is

abundant evaporation, the wretched stuff is, at best, but a poor apology for well-prepared coffee. Especially as it is often "settled" so very imperfectly as to deposit large quantities of *mud* on the bottom of each cup. Under our personal or family direction, neither our coffee nor chocolate will present any *such* evidence that any powdered or solid material has been employed in the preparation. We think there is no part of the culinary art in which people are so self-sufficient and yet so ill-informed.

BEST POSITION OF FIRES FOR WARMING APARTMENTS.

A VERY valuable paper on this subject has been read before the London Society of Arts, by Dr. Arnott. He goes into a full exposition of several popular errors on this subject, and then proceeds as follows:

"These explanations being premised, the two popular delusions respecting the low fires become at once apparent.

1st. The supposition that fuel burnt in a low fire gives out more heat, has arisen from the experimenter not reflecting that his hand held over the low fire feels not only the heat radiated from the fire itself, but also that reflected from the hearth close beneath it, which second portion, if the grate were high, would have room to spread or radiate downward and outward to the more distant floor or carpet, and so warm them.

2d. The notion that the fire, because near the floor, must warm the carpet more, springs from what may be called an error in the logic of the reasoner, who is assuming that the hearth, floor, and carpet, being parts of the same level, are in the same predicament—the truth being, however, that, in such a case, the hearth within the fender gets nearly all the downward rays, and the carpet almost none—as a candle held before a looking-glass at a moderate distance diffuses its heat pretty uniformly over the whole; but if moved close to one part of the glass, it overheats, and probably cracks that part, leaving the rest unaffected. A low fire on a heated hearth is to the general floor or carpet of a room nearly what the sun, at the moment of rising or setting, is to the surface of a field. The rays are nearly all shooting upward from the surface, and the few which approach it slant obliquely along or nearly parallel to the surface, without touching, and therefore without warming it.

Striking proof of the facts here set forth is obtained by laying thermometers on the floor of a room with a low fire, and of a room with the fire, as usual of old, at a height of about fifteen or sixteen inches above the hearth. An experiment tried in two such rooms, in both of which thermometers on the piano-fortes, four feet above the floor, stood at 62°, showed the carpet, not far from the hearth, to be at 56° with the low, and at 73° with the high fire.

As would be anticipated by a person understanding the subject aright, low fires make cold feet very common, unless to those who sit near the fire with their feet on the fender; but, deceived by their fallacious reasoning, the advocates are disposed to blame the state of their health or the weather as the cause, and they rejoice at having the low fire, which can quickly warm their feet when placed near it. A company of such persons seen sitting close around their fire, with thankfulness for its warmth near their feet, might suggest the case of a party of good-natured people duped out of their property by a swindler, and afterward gratefully accepting as charity from him a part of their own property."

These suggestions certainly commend themselves to our good judgment, and would lead us to increase rather than diminish the height of our grates, stoves, etc. For aught we can see, the reasoning would lead us to elevate these fixtures to the highest point from which heat would radiate in very sensible quantities to the surrounding floor. Thus the *circle of attraction* to those having cold feet, would be very materially enlarged.

Our readers may remember some statements which we made in our number for April, 1853, in which we explained the mode by which our atmosphere is warmed. The direct rays of the sun in passing through it are very inefficient, while the temperature of the earth has a very important influence. The notion that "heat rises," is not the controlling principle in this matter, but the effect is dependent on other and very different principles, which we need not here repeat. We refer the reader to the article already described.

TURNIPS AS FEED.

WHILE in attendance upon the late National Poultry Show at Barnum's Museum, we spent a few minutes in the "Lecture-Room." Our friend Mr. Solon Robinson was making remarks upon the use of turnips as feed, as reported in some of the journals of the day. He took the position that they were good for nothing as nutriment, and sustained himself by giving its analysis. This is all very well, but unfortunately it is not in accordance with well-known facts. We used to talk in the same way, but were obliged to yield not simply to a few doubtful experiments, but to years of experience. This the speaker seemed to feel, for he admitted that "in England it might not be so." But we suppose a turnip in England is very much the same thing as a turnip in New-York. He also added that they should be fed by turning the cattle in upon them, as they are growing in the field. We can not see the force or propriety of this distinction. Is it not the same worthless thing before it is pulled, as afterwards? *Must* the cattle or sheep pull it, or bite it off, to render it nutritious? But even here there is no escape, for the English practice is, after the animal has bit off as much as is practicable, the root remaining in the ground is then lifted by a fork and left on the top of the ground, for the cattle to eat at pleasure.

We are compelled to admit that there is something in this *fact* of nutrition, that no *doctrine* of chemistry or physiology is able to explain. The fact is unquestionable, that turnips are excellent for fattening sheep and cattle, whether we can explain why it is so or not. It is equally true, as Mr. R. stated in the same speech, that about 97 per cent of the flat turnip, as shown by a chemical analysis, consists of water. These two facts, so apparently contradictory, are entirely above and beyond contradiction. We subjoin the following, on this subject, which appears in the *Northern Farmer*.

"The vegetable I wish to recommend as the best, all things considered, for milch-cows in winter, is white flat turnips. Some, perhaps, will object to the turnip, because it will affect the taste of the milk and butter. So it does if fed raw; this can be avoided by boiling. For each cow, boil a half a bushel of turnips soft; while hot, add five or six quarts of shorts; which will swell, and you will get the full worth of it. A mess like this fed to a cow once a day, will produce more milk of a good quality, than any other feed at the same cost. Turnips fed in this way do not taint either milk of

butter. One thing in favor of turnips as feed for cows, is, that they can be sown in August, or as late as the first of September. I sowed some as late as September, last year, which were very fine. Turnips are also very profitable feed for pigs, when boiled in the same way as for cows."

FOR THE PLOUGH, THE LOOM, AND THE ANVIL.

CONDITION AND PROSPECTS OF MINNESOTA.

I ONCE before mentioned something about threshing-machines. Illinois as yet has furnished the best or most substantial and useful, that have been brought to Minnesota. Elgin, Ill., has the praise of furnishing the best machines as yet. One machine has threshed 12,000 bushels of grain, and the repairs have not amounted to five dollars. As Minnesota will be a great farming country, a great number of machines will be wanted in this country. Spring wheat is worth from \$1 to \$1.25 per bushel; oats, 40 to 45 cents per bushel.

The crops, on an average, have been good. I hear of no failures of crops, unless by negligence or improper culture. Potatoes have done well, and no sign of rust as yet; and I may say that Minnesota farmers are a happy people. Taxes are light, and a ready market for all that farmers can raise of every description; cash in hand for all; cattle, horses, pork, poultry, butter, etc., in abundance. The bank panic has not affected us much as yet, and we feel confident that Minnesota has managed her affairs so as to stand aloof from the Eastern pressure in financial business.

There is so much good land in Minnesota, and so much of it is cultivated, that systematic farming is little thought of. If a man's farm don't suit him, all he has to do, is to move a few miles off, and find a farm that will suit him better. We turn the sod over in June and July, and the spring following we get from twenty to forty bushels per acre of spring wheat. Corn of most all varieties does better here than in the Eastern States.

Your most obedient,

P. PRESCOTT.

Fort Snelling, Min., Jan., 1855.

VALUE OF MANUFACTURES.

WE know of nothing which so forcibly illustrates the importance of encouraging HOME INDUSTRY, as the rise and progress of our manufacturing towns, and among these the history of Lawrence is eminently worthy of attention. We gather the following facts from a carefully-written article in the *Lawrence Sentinel*.

The first town-meeting after the town charter was obtained, was held April 26, 1847. *The whole number of votes for Moderator was six.* The town voted to raise \$4500 for general expenses, \$1200 for roads and bridges, \$2000 for schools, and \$2000 for building two school-houses.

At the second annual meeting, \$18,000 were appropriated for current expenses, \$4000 for schools, \$30,000 to build a town-house, \$12,500 to build a brick school-house, \$250 for another school-house, \$1500 for Hook and Lad-

der Company; and July 1, \$10,000 additional were appropriated for the town-house.

At the third annual meeting, \$25,000 were appropriated for the expenses of the town, of which about \$8500 were for schools and school-houses.

Thus progress and regard for education go hand in hand. In these matters it is emphatically true that "the liberal soul shall be made fat," while the industry you cherish and protect is not only self-sustaining but is constantly and increasingly aggressive upon all idleness, and ignorance, and the vices that grow therefrom. It is, in many respects, the leaven that pervades the entire mass.

MANUFACTURE OF PLATE-GLASS.

WE find in the *Polytechnic* a very concise account of the process employed in the manufacture of plate-glass. We have not yet been able to compete with the English in this department, on account of the great expense with which it is attended, and the necessity of great skill, which it requires. Without occupying space now, with its history, we copy the account given of its present condition. The American invention, spoken of at the close of the extract, is by the learned editor of the journal from which we copy.

"The best plate-glass now manufactured comes from St. Gobain, in France, where the manufacture of cast plates was first established in 1689; the English plate is next in quality; the German being liable to cloud; the excellence of the plates of St. Gobain is due, it is said, to the fact that it is a true chemical compound, consisting of one atom of trisilicate of soda, and one atom of trisilicate of lime, with a small per-centage of alumina; this manufacture is a very good example of the advantage of employing the best chemical talent in a manufacture where chemical compounds are used. The services of Gay Lussac were engaged for a long time at these works, where his investigations were in the highest degree valuable.

The manufacture of plate-glass, as at present conducted, requires a number of workmen, and the greatest care, after the vitrification of the materials is complete, which takes ordinarily about twenty hours. The glass is transferred from the pots in which it is made to a *cistern*, or as the French call it, *cuvette*, made oblong, and so formed as to be readily transported. This cistern is highly heated in a furnace, and the glass is ladled from the melting-pot into it, and then stands till it is fined, and at a proper heat to work. When the melted glass in the cistern is in the proper state for flowing readily and equably, the cistern is taken out of the furnace by means of tongs, which are made to embrace the cistern. It is then raised by a crane, placed upon a low carriage, and removed to the casting-table. The outside of the cistern is carefully cleaned, and the glass skimmed with a broad copper sabre, to prevent any impurities from mixing with the glass on the casting-table. The cistern is then wound up to a sufficient height by means of a crane, and swung over the upper end of the casting-table, which has been heated by hot coals spread over it, and then wiped perfectly clean. The cistern being tilted over, a torrent of melted glass is suddenly poured out on the surface of the table: it is prevented from running off the sides by ribs of metal, one of which is placed along the whole length of each side, their depth being the exact measure which is to be given to the thickness of the glass. When the cistern has been emptied, a massive copper cylinder, three feet in diameter, extend

ing entirely across the table, and resting on the side-ribs, is set in motion, and spreads the glass out into a sheet of uniform breadth and thickness. The pouring out of the glass is a grand sight, and the variety of colors exhibited by the plate, immediately after the roller has passed over it, is beautiful to behold. In order to remove all impurity from the casting slab, a washer is drawn immediately in front of the fluid glass; the excess of glass pours over the front edge into a trough, filled with water; the roller then passes off the slab, and is received in grooves in front of the slab. The slab is then cleared of any redundancy at the sides; a thick flange of the still soft glass is turned up at the end; and when this flange has become somewhat rigid, a rake-shaped iron is applied to it, and the plate is forced forward into the annealing oven, or thrust upon a wooden platform moving on wheels, and so conveyed to the oven, where it remains about five days, in a horizontal position, exposed to a gradually diminishing temperature.

Grinding and Polishing.—The plate being still hot, and yielding when it is slid into the oven, takes an impression of the bricks of the oven upon which it rests, while the upper surface is generally made smooth and bright from the action of the fire, but it is not flat. The plates, as they come out of the annealing furnace, are about half an inch thick, of an irregular mottled appearance. They are carefully examined, to see whether the glass is sufficiently free from defects to admit of forming large plates, which, of course, have a much greater comparative value than small ones. If the defects are such as can not be removed by grinding, the plate must be cut up into smaller plates, so that the defective portions may be rejected. The plates having been squared, next undergo the processes of grinding and polishing. These were formerly done by hand, but of late years this laborious work is almost entirely performed by machinery. The first object is to produce a level surface, which is done by grinding one plate upon another, a rough or rolled surface being opposed to the comparatively smooth or casting-plate surface. The grinding machines for large plates are arranged in pairs, consisting of two benches of stone, fifteen feet long, eight feet wide, and eighteen inches high. On the surface of each bench, one or more plates of glass are imbedded in plaster of Paris, close together, and quite level. Other plates of glass are cemented upon the lower faces of two swing-tables or runners, which are made to traverse over the fixed beds by appropriate machinery, in such a way that each runner is made to rotate around its own axis, and by a combination of two movements to change continually the relative position of the fixed bench and runner. Such an arrangement tends to the mutual correction of the two surfaces of the glass, and greatly assists the equal distribution of the sand and water. All the irregularities of the surface are first ground out with sharp river-sand, which has been washed and sifted into three sizes: the sand and water are thrown on by hand from time to time. When the plates have been ground quite flat, the finer sand is employed; this is followed by one finer still, which removes the scratches made by the coarser. The plates of glass are well washed between every change of sand; and when one side has been ground, the plates are reversed, and the other side ground.

When the plates become sufficiently smooth to require the application of emery, there is a tendency to cohesion between the surfaces, which, travelling over each other with moderate velocity, produce so much friction that one surface will frequently tear the glass from the other. Hence it has not been thought safe to trust the next process, namely, the *smoothing*, to machinery, and hand-labor has been employed.

The polishing is completed by rubbers, covered with thick felt, and worked

by machinery. The plates of glass are embedded close together, with their surfaces quite level, upon movable platforms, fixed upon a traversing bed. The rubbers, which measure eight by six inches each, are attached, one foot asunder, to reciprocating carriages, which drag the rubbers backward and forward over the surface of the glass, while the latter traverses, beneath the rubbers, a space equal to the distance between the two lines of rubbers, so as to expose all parts of the glass equally to their action. Each rubber is made to exert a pressure of about fifteen pounds, by means of lead weights. The powder used for polishing is Venetian pink; this contains only a small portion of the oxide of iron mixed with earthy matter; it admits of being mixed with water, and thus reduces the friction, and prevents the glass becoming heated by the action of the rubbers. Tripoli irocees, or putty-powder, used with water, are too active to produce a high polish on glass; but they may be employed dry for the last finish in hand-polishing. In polishing by machinery, dry powders must be avoided on account of the friction and heat evolved. Hand-polishing is very tedious, and is apt to produce a wavy appearance; hence, machine-polished glass is to be preferred.

The grinding and polishing of the glass reduce their thickness as much as one third, and in some cases one half. Should the glass be defective, the polishing will only serve to heighten the defects; hence, a second and more careful examination and selection are now made. The defective ones are cut up into smaller plates, and these are polished again; the perfect ones are reserved for silvering."

"A machine for making plate-glass has been invented by J. J. Greenough, and patented a short time since, which does away with almost all the manipulations formerly required; by it glass of any required magnitude can be made, and at a cost very greatly reduced from the old method; it consists in taking the glass from the *cistern* or *cuvette* directly between two rollers, by which it is drawn out into the form of a slab; descending perpendicularly, it is again reduced to a thinner plate by a pair of rollers placed below the first and made to draw sufficiently for the purpose; it then passes downward to a third pair of rollers, and thence to any number found necessary, the sets of rollers being sufficient in number to sustain and draw the glass, and hold it till it gets sufficiently cool to sustain its own weight, when it descends into an annealing oven below, where it is suspended till cool. By this means the two sides of the plate are perfectly straight and parallel, requiring but little polishing to prepare them for mirror plates, or other like purposes. It will be seen that great rapidity of execution can be attained with this method; the quickest working glass, such as could not be used in the ordinary way, may by this means be wrought at a very low cost. The rollers are kept cool by a stream of cold water running through them to carry off the superfluous heat, and the temperature of the glass is thereby rapidly reduced to the proper point for annealing.

There are many minor details in the manufacture which we have here not enumerated; but sufficient has been shown to demonstrate a greatly reduced cost over the old method of making plate-glass, which it must eventually supersede."

CASHMERE GOATS.—A pair of pure-bred Cashmere goats were recently bought by some gentlemen in Richmond, Va., for fifteen hundred dollars. The wool from another pair of the same lot, when examined by a microscope, compared precisely in fineness with the hair of a \$2700 Cashmere shawl.

NEW GAS STOVE.



A NEW method of obtaining heat from gas has been invented by Mr. Shaw, of Boston.

The stove consists of three upright iron cylinders, the middle one being about one half larger than the other two. Above these is another cylinder of radiation, which shows the amount of gas consumed. The engraving is a small representation of its general appearance.

One of our exchanges says :

"Although very diminutive in size, it heats a room, in ten minutes, warm enough for all practical purposes, when the flame can be reduced and an even temperature maintained. When in full blast, it consumes about four cents' worth of gas per hour ; but after the room is heated, one cent's worth of gas per hour will amply suffice. It is easily managed ; indeed, there is nothing complicated about it, and a servant who has sense enough not to attempt to blow a gas-light out, can safely be intrusted with its care. The heat it produces is not a dry heat, but of an agreeable moisture, partly produced by the usual pan of water, which should be attached to every stove, while the flame, burning through asbestos, resembles so closely hot coals that the difference is scarcely perceptible." The following letter from Professor Hayes, who has inspected and tested the stove, and who is very high authority in such matters, is quite explicit :

"The present invention is based upon the principle of burning a mixture of illuminating gas *with* air, so as to develop the largest amount of heat which the gas can afford.

Ordinary burners consume a current of gas *in* air, thereby producing light and an ascending current, by which the heat generated is carried upward and dispersed.

The iron structure, or stove, serves as an absorbent of the heat generated by the perfect combustion of the mixture of gas and air. It then presents a large heated surface, which warms the air in contact with it by conduction, and also in a high degree all bodies near it, by radiation.

No danger exists in this mode of combustion ; the utmost amount of explosion attending it is that which we observe, when we light gas, at the top of a tall burner-chimney.

The products arising from the combustion are vapor of water, carbonic acid, and nitrogen gas, and the amount or volume of these bodies is the same as that produced from an equal number of gas-burners as arranged for affording light.

It is a feature of economy shown in carrying out the application of the principle, that has led the inventor to so arrange the parts that the heat produced is retained as long as possible *low down* in the space to be warmed. The second or upper radiator has been added for this purpose, and it also serves as an indicator of the *amount of gas* which should at any time be consumed for warming the air of an apartment.

If after the first hour of the combustion the temperature of the exit-pipe becomes higher than that of the hand, a portion of the gas may be shut off, and when the air of the room has become warmed, a small volume of gas will maintain that temperature.

I think the inventor has shown much judgment and skill in adapting the parts to the scientific principle, and that his gas-stoves, without ventilation for *open* rooms, and with ventilation for *close* rooms will prove a great addition to our means of comfort and convenience.

(Signed)

Respectfully,

A. A. HAYES, M.D.

Assayer to the State of Massachusetts.

11 *Boylston street*, 22d Nov., 1854.

In a library, where dust is so injurious to books, its value is inestimable. In the Merchants' Exchange, Boston, Mr. Shaw has placed one of the largest size, which contains eight jets, and gives satisfaction. To warm the room, it requires that they all be lighted for the first half hour, after which four may be shut off."

CAST-IRON HOUSES.—A most ingenious and practically useful application of cast-iron has just been introduced by Mr. Chaplin, engineer and iron-house builder, Glasgow, giving the material a wide scope in an extremely novel direction. It consists in the adoption of cast-iron for house-building purposes, in such a manner as to produce a close resemblance to stone. To this end, the metal is cast in rectangular blocks, with back-flanges and strengthening ribs, for bolting together into a solid mass, each separate detail being made in the shape of ashlar-hewn stone, or brick. The pieces may obviously be of any convenient size and shape, all, when erected, running in level courses, and each numbered, in correspondence with its size and special form. In this way a solid cast-iron mass is easily erected, the numbering system very much facilitating the ordering and putting together of the pieces; and, if desired, a single plate may be made to resemble two or more stones, by being suitably marked. An internal air-space, or non-conducting section, may also be formed by an inner lining of wood, or lath and plaster; and the chimneys and flues may be carried along in this space, as in stone or brick erections. By this system an entire house, of large size may be erected with very few, perhaps four or five, varieties of sizes and shapes of cast-iron pieces, or factitious stones. No lintels are necessary for the windows and doors, as, by bolting together the flanges of the pieces, due support can be given, without involving the use of long pieces. A double shop, with an overhead dwelling, recently erected by the patentee, exhibits the value of the plan in a most favorable light. The roof, which is of arched corrugated iron plates, is concealed by the projecting eaves; and whilst the entire front is severe and plain ashlar imitation, sufficient relief is given by the separate attachment of light ornamental beads or mouldings—one at the top of the first course above the windows, and one for the roof-gutter. The roof-gutter is fastened on outside the wall face, and the edge of the roof is brought over the wall, so that no dripping from leakage can find its way to the interior of the house. Either new or old stone and brick buildings may be faced with thin plates of this "imitation ashlar," which is obviously more enduring, and less liable to injury, than the best sandstone or cement; whilst the material admits of the most elaborate ornamentation at a comparatively small cost.

THE LOWELL WIRE FENCE ILLUSTRATED.

IN our January number, we chronicled the invention, by JOHN NESMITH, Esq., of Lowell, Mass., of a machine for manufacturing wire-fence, and spoke of the admirable adaptiveness of this mode of fencing to farms, gardens, roads, railroads, canals, trellis-work, etc. We are now happy to present our readers with some cuts illustrative of this novel and excellent fencing.

Fig. 1.

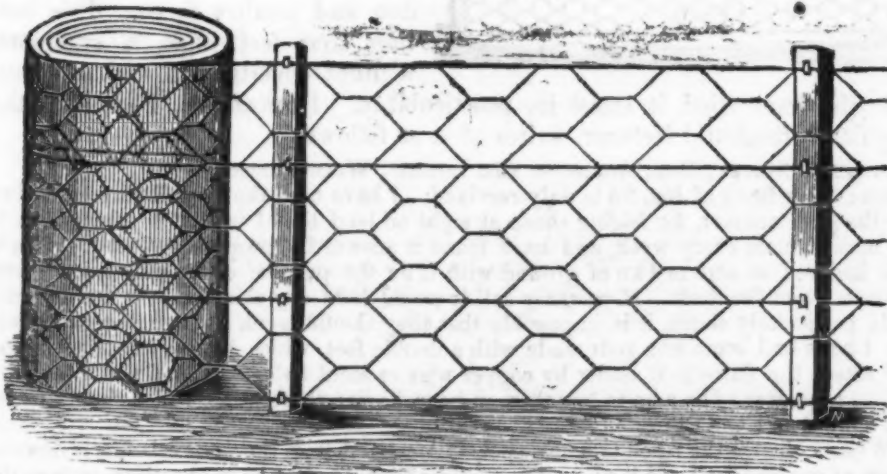


Fig. 1 represents the strongest kind of this fencing, four feet high; the mesh or squares six inches; the straight or lateral wires of No. 10 wire; the body of the fence of No. 12 wire, (or it may be of No. 15 wire;) varnished with asphaltum blacking, (or it may be coated with coal tar, or painted, or galvanized,) for beauty and preservation. If re-varnished once in five or six years, this fence will last a century or more, while the most durable post-and-rail fence lasts but about thirty years. The price of this mode of fence is from 75 cents to \$1.10 per rod, according to the weight of the wire.

Fig. 2.

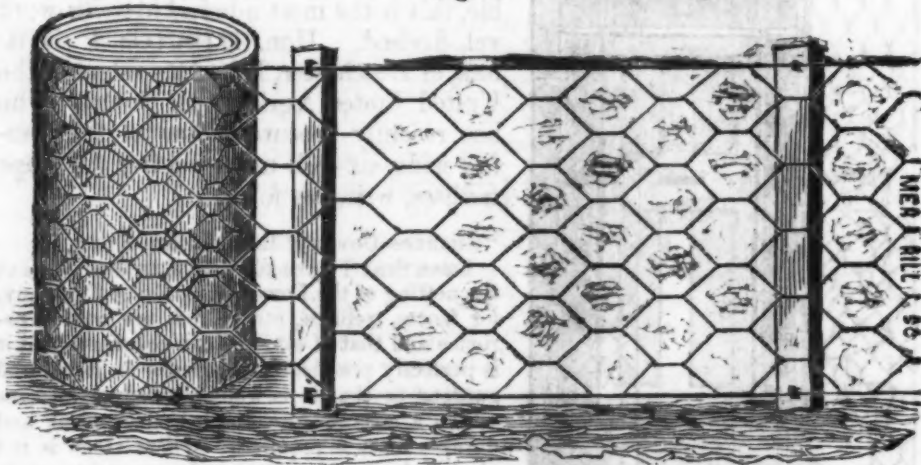


Fig. 2.—This netting is of the same height as the former, with wire and

mesh of the same sizes, but without the two lateral wires through the middle of the fence. This varies in price from 60 to 95 cents per rod. Both these make first-rate cattle fences.

Fig. 3.

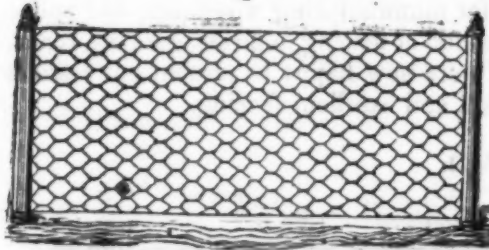


Fig. 3 represents a different kind of this netting, from sixteen inches to four feet high, with mesh of three inches. The outside wires are of No. 10 wire; the inside of No. 15; the price from 75 cents to \$1.50 per rod. It is a capital sheep, garden, and poultry fence. This netting, four feet high, is sufficient, without covering, to "hold" hens.

All who have tried it attest its practicability. RICHARD S. FAY, Esq., the popular agricultural lecturer, writes of it as follows:

"CHARLES COWLEY, ESQ., AGENT OF THE LOWELL WIRE FENCE CO.:

SIR: Your favor of Jan. 2d is duly received. I have used the Lowell wire fence during the past summer, for folding sheep at night on land that I wished to manure, shifting once or more every week, and have found it answer the purpose perfectly. I have also inclosed an acre or two of ground with it for the purpose of keeping a few sheep separate from the flock. If properly set, it would hold any thing, and for smaller animals, particularly sheep, it is impossible that they should break it down or escape from it. I have had some iron rods made with a double foot, which I drive into the ground and attach the fence to it either by copper wire or stout twine. A man and a boy will inclose a quarter of an acre in less than an hour, having these posts, which should be set not more than a rod apart.

When I change the fence to a new spot, I unfasten it from the posts—throw it down—begin at one end, and roll it up as you would a carpet. And so in re-setting, reverse the process, rolling it out where it is to be set; drive down the posts, and then raise it and attach it to them. My fence cost \$1.50 per rod, and it is a cheap mode of hurdling or inclosing at that price. I understand now that it is made much cheaper.

I am very truly yours,

RICHARD S. FAY.

Boston, Jan. 5, 1855."

Fig. 47.

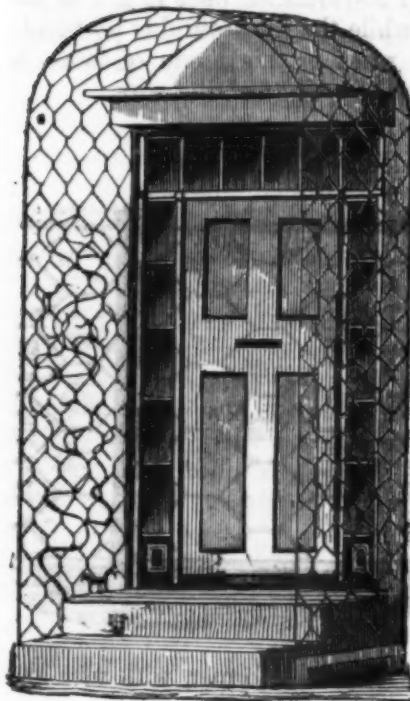


Fig. 47 represents the front door of a house, arched with some of this netting as a mode of trellis-work. It may be had of any width, from sixteen inches to four feet, and of any mesh, one, three, or six inches. Light, cheap, elegant, and durable, this is the most admirable trellis-work yet devised. HON. MARSHALL P. WILDER, of Dorchester, Mass., President of the United States Agricultural Society, who has recently procured some of the four-foot-wide, six-inch mesh netting for grape trellises, writes as follows:

"CHARLES COWLEY, ESQ., AGENT, ETC.:

DEAR SIR: I have recently examined some of the netting of the Lowell Wire Fence Company, for fences, trellises, etc. From my own experience and that of others, I can not doubt that it is perfectly practicable as a fence for fields and gardens, or that it is well adapted to all uses where a strong, close, elegant, economical, and durable fence is required. Where stone is not abundant, or where lumber is expensive, as in many of our States, I should deem it the most practicable fence that could be procured. If our railroads are hereafter to be inclosed, as

safety and economy demand, they can scarcely be fenced cheaper or better than by this mode of fence. The stouter kinds of this netting are of such strength, that cattle could not easily penetrate or pass it; while the closeness of the lighter kinds renders them admirably available for garden uses, heneries, and poultry fences. Fencing like this has for some years been extensively used in Great Britain; and, since it can now be made at a much less cost, by machinery, it would seem to be equally adaptive to the United States. I know of no fencing so good as this, that can be procured for \$1.50 per rod, the highest price asked for the most costly kinds of this netting; and this is, probably, the only fencing of equal merit that can be bought for \$1.50 per rod.

As a material for rose-trellises, grape-trellises, and ornamental work in gardens, I think it unequalled in cheapness, durability, and beauty, by any thing yet devised. It will, without doubt, eventually be received into general use, when its merits are appreciated by the public.

Yours respectfully,

MARSHALL P. WILDER.

Dorchester, Jan. 15, 1855."

Besides the kinds of this netting represented in these cuts, there are other kinds—one of one-inch mesh, which is fast coming into use for window-netting, bird-cages, etc., etc.

The enormous expense of constructing and repairing stone walls, post-and-rail fences, and other modes of fence now in vogue, is such that many do not hesitate to attribute to it the present backward state of American agriculture. The well-known Mr. BIDDLE, some years ago estimated that the fences of Pennsylvania alone cost \$100,000,000, and the annual expenditure upon them not less than \$10,000,000. In all the other States, the "*fence-oppression*," as it has been called, weighs no less heavily than in Pennsylvania. In view of such facts, we regard the introduction of the fencing above portrayed as a blessing to all the farmers in the country. That it will, in a great measure, supersede all our present modes of fencing, is an opinion concurred in by its inventor, by the Company organized to manufacture it, and by all, whether practical agriculturists or scientific theorists, who have tried or examined it.

AMERICAN SOLIDIFIED MILK.—Mr. Blatchford has established a factory for the purpose of carrying on this process at Armenia, N. Y. There the following treatment is adopted: To 112 lbs. of milk, 28 lbs. of Stuart's white sugar are added, and a trivial proportion of bicarbonate of soda—a teaspoonful, merely enough to insure the neutralizing of any acidity, which in the summer season is exhibited even a few minutes after milking. The sweet milk is poured into evaporating pans of enamelled iron, embedded in warm water heated by steam. To facilitate the evaporation by means of blowers and other ingenious apparatus, a current of air is established between the covers of the pans and the solidifying milk. Connected with the steam-engine is an arrangement for stirrers, for agitating the milk slightly whilst evaporating, and so gently as not to churn it. In about three hours the milk and sugar assume a pasty consistency. By constant manipulating and warming, it is reduced to a rich creamy-looking powder; then exposed to the air to cool, weighed into parcels of a pound each, and by a press, with the force of a ton or two, it is made to assume the compact form of a tablet, (the size of a small brick,) in which shape, covered with tinfoil, it is presented to the public. On a recent examination of the routine, some of the solidified milk which had been grated and dissolved in water the evening previous, was found covered with a rich cream. This skimmed off, was soon converted into excellent butter. Another solution was speedily converted into wine-whey, by a treatment precisely similar to that employed in using ordinary milk.

BLOOMFIELD'S CYLINDRICAL STEAM VALVE.

The annexed engravings represent a new valve for engines, invented by Hosmer Bloomfield, of Springville, N. Y.

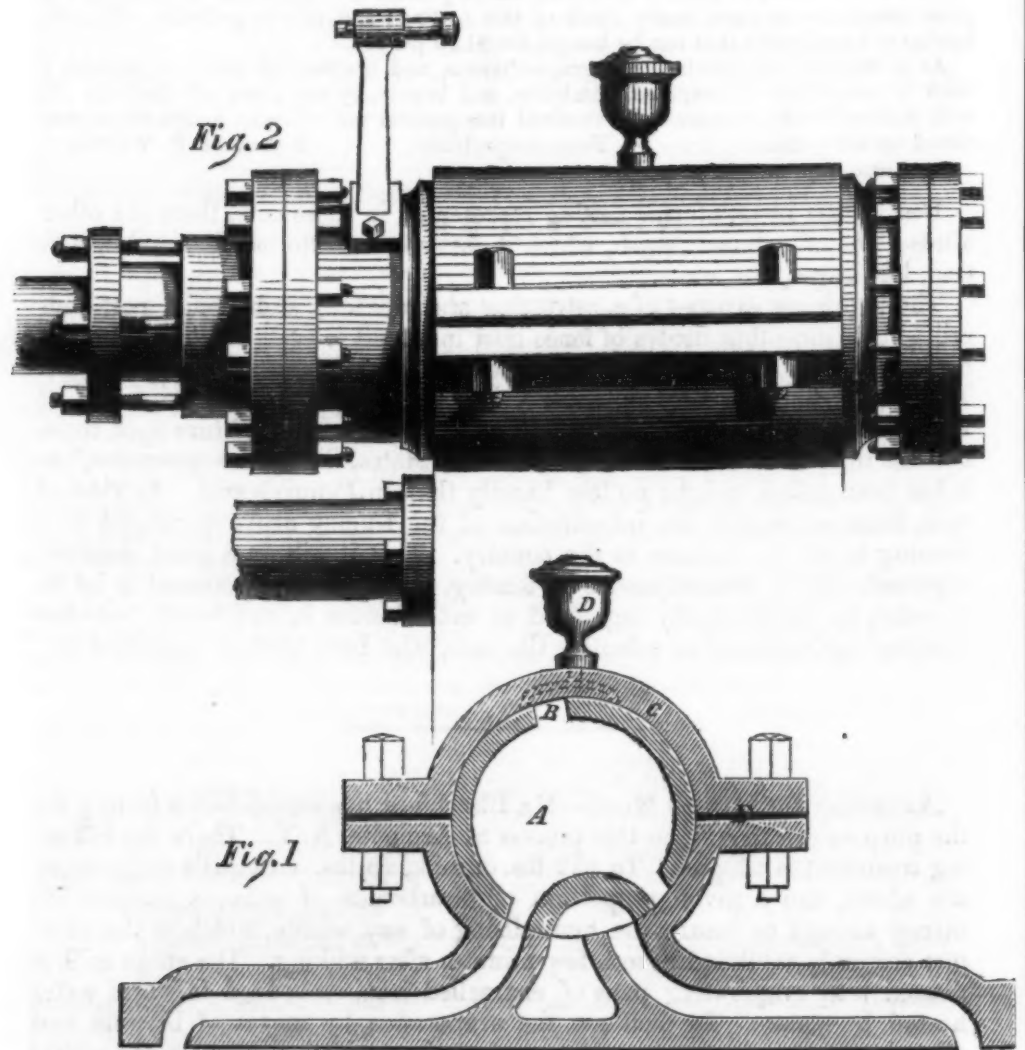


Fig. 2 is a side elevation of the valve, with the inlet pipe attached, and the crank-pin, for oscillating the valve. Fig. 1 is a transverse vertical section of the valve and the steam passages of the cylinder of an engine. A represents the cylindrical valve, which forms a steam-box, with head and bottom like a cylinder. This valve extends to the outside of the valve-cover, C, and is oscillated by the eccentric rod, which is attached to the pin of the arm shown in Fig. 1. B is an opening in the roof of the valve, to counteract the abutting force of the steam on the cylinder face. D is an oil-cup, and there are channels cut in the valve to allow its whole surface to be lubricated. E is a layer of vulcanized india-rubber packing, to render the cover, C, steam-tight. In Fig. 1 the steam is exhausting from the steam-cylinder at the right-hand end, and the engine is taking in steam by the left-hand port and

passage. This figure is taken through the length of the steam-cylinder, and is consequently at right angles to Fig. 2, which shows the exhaust-pipe on the steam-cylinder under the top inlet steam-pipe. The advantages claimed for it by its author are: 1st, perfect freedom from unequal steam-pressure; 2d, accessibility of all its parts to lubrication; 3d, simplicity; 4th, even wear of surface after it is ground in steam-tight.

More information respecting it may be obtained by letter addressed to Mr. Bloomfield, at Springville.

MISCELLANEOUS.

EMBOSSING TELEGRAPH.—Mr. E. S. Barnes, of South-Camden, N. J., professes to have made certain discoveries which enable him to improve vastly upon the present system of printing-telegraphs. He calls his invention the "Embossing Telegraph," and sets forth in a circular the principal advantages over other methods. Some of these are as follows:

The difficulties from atmospheric electricity are entirely removed, by a process which needs to be seen to be properly understood. Suffice it here to say, that however great the volume that may be discharged into the office, there is a contrivance, no more complicated than a simple vessel of acidulated water, to arrest and dissipate nearly, if not quite all the charge; and any that may pass, will not disturb the equilibrium of the magnet, at most, more than momentarily, owing to a combination of a permanent with an electro magnet, the former of which will not be inductively affected by any amount of water that can pass the vessel of acidulated water. And now to produce the Roman letter, by a process combining simplicity of mechanical construction, strength of operation, and ease of acquirement by any operator of ordinary capacity. This I have done. But to set forth how, would be to give a detailed description of the instrument, which is not here my intention. I will endeavor to make it perfectly clear to any one who will be pleased to witness the operation, at Camden, New-Jersey. There is another feature of great advantage in this instrument—the "circuit-breaker," at the terminating station, and the type-wheel, at the receiving station or stations, return to a given starting-point at the completion of each letter, the instrument thereby adjusting itself at every letter, and this without loss of time.

"Mr. Barnes," says the *Louisville Journal*, "resided here for a considerable time a few years ago, and is well remembered by many of our citizens. He gave much attention to the subject of electro-telegraphs, and, by those who knew him well, he was considered a great inventor. We have a strong hope that his Embossing Telegraph will accomplish all that is expected of it."

EMPLOYMENT FOR THE POOR.—We cheerfully give place to the following by request of Mr. De Motte. The object is obvious to the reader. It was originally addressed to the editor of the *Sun*:

The Address of the American and Foreign Emigrant Protective and Employment Society, which you kindly gave a place in your columns, has already produced its anticipated fruits. Numerous letters have been received within the last few days at the Society's office, requesting that portions of the surplus labor of our city may be removed to the neighborhood of the writers. These letters are on file, and open to the inspection of any disposed to examine them. The Board of Managers have to deplore an exhausted treasury.

One thousand dollars, placed in their hands, could be at once advantageously employed to defray the travelling expenses of suitable persons, desirous of obtaining employment, to the locations where their labor is desired and needed. It would undoubtedly be the best investment of charitable funds that could be made. In all cases the beneficiaries are required to refund the amount thus advanced out of their future earnings, and their employers are engaged to see that this is done. This very day a respectable American mechanic—a wheelwright—applied to the Society for aid to remove himself and family to the country, where employment and a home awaited him, but the boon could not be granted him.

The Managers take this opportunity of inviting the friends of humanity in the country to aid in this work of benevolence. The support of the destitute poor now in the city of New-York, who can not be removed, is taxing to the utmost the charity of the citizens. Let those communities where labor is wanted form Associations, collect funds and remit them to the Society, and the pledge will be given that, if not restricted to country or creed, careful selections will be made of moral and industrious persons to fill the stations to which they may be invited. A good opening is offered to those wanting employment who have means sufficient for their removal, of doing so, as in removing under the auspices of the Society, care will be taken to prevent imposition or disappointment, and every facility and information will be extended to each.

MORTIMER DE MOTTE, *Cor. Sec.*

New-York, Jan. 12.

SLAG AS A MATERIAL FOR FICTILE PURPOSES.—Some time ago, Mr. Elliott, of Blisworth, made a very satisfactory attempt to establish the manufacture of bricks and tiles from the slag, or refuse cinder, of blast furnaces. Now, we have a further movement towards a similar end, at the hands of Dr. Smith, of Philadelphia, who, with a staff of chemical assistants, is at present engaged in the matter at Merthyr. His experiments have been made with the view of producing bottles, and domestic utensils of various kinds, as well as tiles and paving-flags; and this mode of converting the enormously-accumulating cinder of the iron works has been decidedly successful. The new bottles are tougher and more perfect in their annealment, than any of the ordinary glass kind; but they are undistinguishable from glass ones in external appearance. Lady Charlotte Guest has adopted the process, and it is believed that not much time will elapse before the transmutation of what has hitherto been a constantly-increasing waste mass, will be a commercially-valuable fact.

TO GIVE A DULL BLACK COLOR TO BRASS.—A dull black color, such as is frequently employed for optical instruments, may be given to brass by first carefully rubbing the object with tripoli, then washing it with a very dilute solution of a mixture of one part of neutral nitrate of tin and two parts of chloride of gold, and then wiping off the excess of liquid, after the lapse of ten minutes, with a wet cloth. If there has been no excess of acid, the surface of the metal will have assumed a dull black color. The neutral nitrate of tin may be prepared by decomposing the perchloride with ammonia, and dissolving the precipitated oxide thus obtained in nitric acid.

LOCOMOTION BY MEANS OF A VACUUM AND COMPRESSED AIR.—Mr. Sommeiller, a Sardinian engineer, and director of the railway works of Turin, has invented an ingenious apparatus, which he has patented in France and several countries abroad, for the utilizing of natural waterfalls for the purpose of

compressing air into suitable receivers, or for producing a vacuum in such receivers, and applying the same to locomotive purposes. The Sardinian Government has just made a grant of 80,000 livres, for the purpose of experimenting upon the invention, which will probably be applied to the ascent of Mount Cenis and the Col de Tende.

PORTABLE SCREWING TACKLE.—This form of screwing-tackle possesses the valuable feature of extreme portability. It is intended more especially for gas and water-pipe fitters, or for other artisans whose avocations require the carrying about of screwing apparatus to scattered jobs. The die-frame is of cast-iron, with two diametrically-opposite bosses cast upon it, which are bored up sufficiently far to receive the two wrought-iron handles. The boss-holes are made with a slight taper, so that a tap will fasten the handles in their places, whilst they can be at once knocked out when required. When both handles are unshipped, the stock will go into a very small compass, so as to be easily packed in an ordinary tool-basket or box.

POLISHED SHIRT-BOSOMS.—We have often endeavored to learn how this work is done, but have met with little success. We are now able to give the following as a process in use in some laundries :

To a quarter pound of starch add white spermacetti of the size of a walnut, or say, half an ounce ; boil these together from one to three hours.

In ironing, when the flat is hot, rub the face of it rapidly with a piece of white wax, taking care not to suffer it to adhere too freely ; and this gives a smoothness to its surface which is serviceable in heightening the polish of the linen.

Since the above was written, we have seen the following in an exchange :

"We often hear ladies expressing a wish to know by what process the gloss on new linens, shirt-bosoms, etc., is produced, and in order to gratify them, we subjoin the following recipe :

"Take two ounces of fine white gum arabic powder—put it in a pitcher, and pour on a pint or more of boiling water, according to the degree of strength you desire—and then, having covered it, let it stand all night. In the morning pour it carefully from the dregs into a clean bottle, cork it, and keep it for use. A table-spoonful of gum-water stirred into a pint of starch made in the usual manner, will give lawn, either white or printed, a look of newness, when nothing else can restore them after they have been washed.

THE WATER-POWER, ETC., POTOMAC.—We have received a pamphlet and extensive maps, describing the water-power at the Great Falls and town of Potomac, owned by the Great Falls Manufacturing Company, and intended to give a particular account of it. But the pamphlet was mislaid, and hence forgotten till our pages were full. We shall publish it in our next number. Meanwhile, we merely remark that here are the means, if properly used, for one of the largest and safest manufacturing establishments in the United States.

NORTHERN FARMER—CAUTION.—The editor of *The Northern Farmer* recently complained of some of his contemporaries for not giving credit for borrowed articles. But in his January number he has published an entire article entitled, "Raising Forest-Trees," which we prepared for our own journal, without any intimation that it is not editorial in his pages. This example is not commendable.

IRON TRADE, YORKSHIRE.—Since the recent discovery of iron-ore in the Cleveland Hills, in the North Riding, the trade has made rapid progress.

Eighteen firms have established themselves in the districts of the Tyne and Tees, who will shortly have eighty-five furnaces in blast, producing 500,000 tons of iron per annum. Several of these are already at work; others are building. Sites for 300 houses, with a church, market-place, and other public structures, have been laid out near Stockton, and the whole will be completed in two years. The new town will bear the name of North-Ormsby, and this makes the second town erected since the discovery of ore.

MANUFACTURE OF IRON AND STEEL.—A Frenchman has been attempting to instruct the Americans in the application of wood to the manufacture of iron and steel. Wood can not be employed without previous preparation, on account of the quantity of water it contains; and he calls attention to the methods which have been employed, for a short time, in Styria and Carinthia, for driving off the water by heat, but stopping the distillation as soon as the substances which escape begin to contain carbon. One method is this: The gases coming from the fire-place are brought into immediate contact with the wood, which is thereby raised to a temperature sufficiently high to yield its moisture to them. In the second method, the gases are not brought into contact with the wood, but are conducted through iron pipes, around which the wood is piled. This is the more economical process, and does not render the wood liable to spontaneous combustion, as the first is apt to do. The carbonaceous residue is then applied to the puddling process, in which the quantity of air introduced into the furnace is regulated, so that no more is admitted than is required. Under the old system it was found that mineral combustibles were much better adapted than wood to the operations of the puddling furnace; they produced a more regular current of gas, and the interstices between the pieces of wood permitted too much air to pass. But now the dried wood and the current of air, by which ignition is supported, are admitted separately into the laboratory, and hence the fire-place must have quite different dimensions. It is very long vertically; the grate is very low, and composed only of a few bars to support the wood. The air does not enter freely into the fire-place; the bellows sends a graduated current of air under the wood, and produces its distillation. On account of the pile which the air is obliged to traverse, the distillation is gradual. The air admitted is in proportion to the quantity of wood required to be carbonized in a given time. The current of combustible gas found in the wood passes into the laboratory, where the puddling takes place, and is met by a regulated current of air driven through a pipe. The laboratory thus obtains, instead of an ordinary flame, a combustible gas, free from all traces of oxygen. It is asserted that, by this process, the purification of the iron takes place under very favorable circumstances, and that even impure kinds yield excellent metal.

COAL TRADE.—In the year 1853, 8,835,573 tons of coal, 40,142 tons of cinders, and 195,269 tons of culm, in all 9,070,984 tons, were shipped at the several ports of the United Kingdom, coastways, to other ports of the United Kingdom. In the same year, 3,758,123 tons of coal, to the declared value of £1,507,950, and 176,939 tons of cinders, to the declared value of £96,641, were exported from the several ports of the United Kingdom to foreign countries, and to British settlements abroad. 4,026,985 tons of coal were brought into the port of London during the year, of which 3,373,256 were brought coastways, and 653,729 by inland navigation and land carriage. The export of coals to Russia during the year 1853 amounted to 212,762 tons, the declared value of which was £78,559. We glean this information from a parliamentary paper.

"ANASTATIC PRINTING," now a comparatively antique invention, is a peculiar process, by which any design made on paper with prepared ink, chalk, or other oleaginous matter, may be transferred from the paper to a metal plate, which plate, in turn, may be used as the actual printing surface for the production of an indefinite number of copies of the original design.

The discovery of this interesting art occurred at Erfurt, in Germany, some years ago; but its introduction here is mainly due to Professor Faraday, who gave an elaborate lecture on the subject, at the Royal Institution, in 1845. The term "anastatic" has been deduced from the Greek, (*ἀνάστασις*, *resurrection*, or *reproduction*.) The plan is simply this: The printed original, or the paper carrying the oleaginous device, however produced, is laid face downwards, upon a clean zinc plate, and an acidulous solution is then applied to the back of the paper, when the whole is passed through a press. The presence of the oleaginous lines in contact with the plate, prevents the acid from taking effect at those parts, whilst the blank spaces, being quite unprotected, are fully and completely acted upon, or "bitten" in by the acid. We have thus a reversed *fac-simile* of the original device, the lines of such figure or letters being in relief. On the removal of the paper, the plate is treated with a gummy solution to prevent the adhesion of the printing-ink upon the blank spaces, and the plate is then inked upon by rollers, and printed from—just as a form of types would be used.

In some instances, very old letter-press and drawings have been most perfectly re-produced in this way; but, in the majority of cases, the complicated and uncertain chemical arrangements necessary for reviving the hard and dry ink of old subjects, have been a complete bar to the application of the new process to this purpose. Hence, Mr. Cowell, with other printers, has been led to adapt the art to purposes of more general utility.

NEW METHOD OF TREATING GUTTA PERCHA.—A new mode of treating gutta percha, with the view of applying it to various new purposes, has been lately patented in France. To render it liquid, a carburet of hydrogen, obtained in the following manner, is made use of: Take of the light oils from the distillation of coal tar, (spec. grav. 20° to 30° ,) and wash it well several times, adding, the first time, a little sulphuric acid, for the purpose of removing matters injurious to the production of the carburet. The acid can be removed by repeated washings with water, after which the oil must be distilled. To the distilled oil some lime in powder and sulphuret of carbon must be added, and it is then subjected to a second distillation. A liquid, indicating 28 or 30 degrees on the hydrometer, passes over. By means of this, gutta percha may be liquefied, applied either cold or hot, the latter being best. By adding a little alcohol to the carburet thus obtained, a liquid is obtained of 32° or 33° , which will take away spots of grease from all kinds of textile fabrics, even from silk, without altering the color, and it may be used for cleansing gloves. Its unpleasant smell can be removed by adding a little essence of lavender. An important application of the liquefied gutta percha is for printing rollers, which are usually made of gelatine, or glue and molasses mixed in different proportions, according to the temperature and the season. If to these matters a small portion of liquefied gutta percha is added, a very superior kind of roller is obtained. Liquefied gutta percha, mixed with gum copal, dissolved in the carburet above described, produces an excellent varnish for wood and metals, and applied to iron it prevents its oxydiza-

tion. All sorts of fabrics can be rendered water-proof by a single coating of liquefied gutta percha. When intended to be used in a solid state, the gutta percha should be well kneaded in a heated mortar, and then pulverized coloring matter is added. It is then kneaded again, in order to make the coloring enter into every part of the mass. It is then passed between rollers. Thus prepared, it resists from 140° to 160° Fahr. of heat. It is made use of in the manufacture of all kinds of objects of art or industry, such as pipes, boxes, vases, statuettes, casts, etc.

PRESERVING MEAT AND FRUIT.—The French have been experimenting upon this subject, and it is reported that a mode of preserving meat and fruit has been discovered, by which they are not altered in size or appearance, so that at the end of six or eight months, when placed on the table, they would be taken to be perfectly fresh. What is still more strange, the articles have lost none of their original flavor. If all this is true, the discovery is a very valuable one. MM. Delabarre and Bonnet have submitted to the French Minister of War some samples of meat preserved by their method. This consists in drying it by natural means, and then preparing it with materials furnished by the animal. When the water which composes a large part of fresh meat is driven off, the osmazome supplied by the animal is applied as a varnish to the increase of the nutritious properties of the meat. By desiccation the meat is reduced in size and weight one half, and this is done without the application of artificial heat. It may be eaten in this state, and is not disagreeable. When cooked, half an hour's immersion in hot water is sufficient to increase its bulk to what it was originally, and to render it as palatable as if fresh meat had been cooked. There has been such wholesale deception in the preservation of meats, that the public is naturally suspicious in the matter; but we need not say that a cheap method of preserving meats in an effectual manner, would be most valuable both to the inventor and the public.

LIME LIGHT FROM THE DECOMPOSITION OF WATER.—Professor Callan, of Maynooth, has published, in a recent number of the London, Edinburgh, and Dublin Philosophical Magazine, the results of a series of experiments on the decomposition of water, with a view to obtain a constant and brilliant lime light. He states, firstly, that he has invented a new apparatus for applying with perfect safety the mixed gases, oxygen and hydrogen, to the production of a flame of the most intense heat, which, when thrown on lime, produces a most dazzling light. Secondly, that he has invented a new voltameter to which a common jet may be screwed, and the gases inflamed as they issue from it, without the smallest risk of injury, and by which the full decomposing effect of a battery of 100 or 500 pairs, arranged in one series, may be produced without exhausting the power of the battery more rapidly than if it only contained three or four cells. Thirdly, that he has discovered a new negative element, far cheaper, more durable, and one which may be made to act more powerfully than the platinized silver used in Smee's battery. Fourthly, that he has discovered a new mode of protecting iron against the action of the weather, and of various corroding substances, so that it may be used for all the purposes to which sheet-lead and galvanized iron are applied. Fifthly, that he has discovered a new method of producing a brilliant intermittent lime light by means of a small galvanic battery; and, sixthly, a new mode of exhibiting dissolving views by means of the lime light. Lastly, that he has invented a new sine galvanometer, the only instrument yet made by which very powerful galvanic currents can be measured.

A. C. RUSSEL, of Kirtland, one of the heaviest sheep men on the Reserve, and who knows what a good sheep is, sent some of his best ewes to Brooklyn, last week, to be tupped by "Tippecanoe," the celebrated buck owned by Jno. Goes.

GENERAL AGENCY.—The publisher of *The Plough, the Loom, and the Anvil*, believing it in his power to be of essential service to the readers of that journal, in the purchase or sale of various articles, and the transaction of various kinds of business, would announce to them that he is ready to execute any such commission which he may receive, including the purchase of books of any description; implements connected with agricultural, manufacturing, or mechanical operations; artificial manures; farm and garden seeds, etc., etc. One of the gentlemen connected with the journal is a proficient in music, and experienced in the selection of piano-fortes, flutes, etc., and will execute orders in that department.

He will also act as agent in the purchase and sale of Real Estate.

Particular attention to business connected with the Patent-Office.

Letters of inquiry on these matters will be promptly attended to.

SCHOOL-TEACHERS. — Having had occasion to furnish teachers for some of our Southern friends, we have been fortunate enough to learn of several young ladies who are admirably well qualified for families or schools, and if any are in need of such, a letter addressed to us will receive immediate answer. We shall not fear to guarantee that any reasonable expectations will be fully met. Some of them are desirous of going South.

NEW BOOKS.

WM. HALL & SON'S NEW MUSIC.

AMONG the capital pieces of new music published by this well-known firm, are *Wemolo Schottisch*, by Wm. Vincent Wallace, very beautiful when nicely executed. It is also a capital exercise for those who would acquire a firm and vigorous touch.

One Grand Polka de Concert, by Wm. V. Wallace—very difficult, but very fine.

The Dream of Youth, song and quartet, by Wm. Iueho—simple, natural, and effective.

Down the River, down the Ohio, as sung at Christy's, by E. P. Christy—quite characteristic.

Messrs. Hall & Son have recently produced a great excitement among the music dealers, by offering all their music, not copy-righted, AT ABOUT HALF PRICE. Their idea is to give music a value like other publications, not merely by the square foot, but by its cost, modified somewhat by other considerations. Whether this is or is not a wise policy, is not for us to decide, though we confess we do not see why an impression from an old plate which has produced its thousands and tens of thousands of copies, and been thrummed for years, should command as much price as new music, especially that for which a large sum has been expended in the purchase of a copy-right. But one thing we do know. This is a capital opportunity to obtain a large portfolio of good music very cheap. This arrangement may be permanent, and it may not. Hence all should avail themselves of it. Let any of our subscribers make out their lists, inclose their costs at half price, "or thereabout," and send to us, and we will purchase and forward immediately as ordered, *without charge*. And though we much prefer definite instructions, we will venture to assume the task of selection, provided the general character of the pieces desired is sent to us with their cost. State also what proportion of vocal or of instrumental is desired.

THE FIELD-BOOK OF MANURES; or, The American Muck-Book, etc., etc. By D. J. BROWNE. New-York: C. M. Saxton.

We have before commended this book. We repeat the commendations before given. It is literally full of valuable instruction in the making and using of all manures, ani-

mal and artificial. It is entirely reliable from beginning to end. It would be difficult to improve it.

"FATHER CLARK;" or, The Pioneer Preacher. Sketches and Incidents of Rev. John Clark. By an Old Pioneer. New-York: Sheldon, Lamport & Blakeman. 1855.

THIS title is *doubled*, if not somewhat *twisted*. The book is the first of a series of "Pioneer Books," written, it is said on the cover, by Rev. J. M. Peck. Why the author's name is not on the title-page as well, we do not know. Father Clark was the first preacher who ventured into the Spanish country west of the Mississippi. His earlier life was various—a sailor, privateer, a prisoner, a fugitive, shipwrecked, a teacher, and a preacher in the South and West. He died in 1833.

THE AMERICAN ALMANAC AND REPOSITORY OF USEFUL KNOWLEDGE, FOR 1855. Boston: Phillips, Sampson & Co.

THIS annual is filled, as usual, with a large amount of valuable information. The statistics are full and reliable. The execution of the volume is very creditable to the publishers.

POEMS OF THE ORIENT. By BAYARD TAYLOR. Boston: Ticknor & Fields. 1855. 203 pages.

THIS volume is handsomely executed, and it ought to be, for it contains some of the finest things we have seen for many a day.

"And the poet knew the land of the East;
His soul was native there."

The soul of our author is quite at home, whether he treats of the "Arab Warrior," "The Temptation of Hassan Ben Khaled," or "The Birth of the Prophet." "The Shekh," from the Arabic, is a very beautiful effusion. There is certainly poetry, and of a high order, and nature, perhaps unsanctified, in "In Articulo Mortis." There is much to commend in this little volume.

DE BOW'S REVIEW.

WE have taken occasion repeatedly to commend this publication. It is chiefly statistical, and of course less attractive as a mere amusement than many of far less value. But Mr. De Bow is a worker, and he works to some purpose. His pages uniformly exhibit proof of this. His connection with the census department gives him peculiar facilities for a work of this description, and if his results are sometimes imperfect, it is not from want of care on his part, but from errors in original documents. But other matters beside statistics are always found in this journal, both from his own pen and from contributors, and these contributors, for ability and information, will not suffer by comparison with those of any other journal. It surely deserves a liberal patronage.

This Review has recently been enlarged. Each monthly number now contains 144 pages, and the editor will devote his time exclusively to it. It is published both at New-Orleans and Washington.

STATISTICAL VIEW OF THE UNITED STATES, ETC.; being a Compendium of the Seventh Census. By J. D. B. DE BOW, Superintendent of U. S. Census. 1854.

THIS volume has just been sent us through the courtesy of Mr. De Bow. It is a House document. The contents are prepared, evidently, with unusual care. Several tables are added, not found in former volumes of this description. Mr. De Bow is a very industrious and efficient officer.

A UNIVERSAL AND CRITICAL DICTIONARY OF THE ENGLISH LANGUAGE; to which are added Walker's Key to the Pronunciation of Classical and Scripture Proper Names, much enlarged and improved, and a Pronouncing Vocabulary of Modern Geographical Names. By JOSEPH E. WORCESTER, LL.D. Boston: Jenks, Hickling & Swan, Publishers.

JOHNSON'S Dictionary (Todd's Edition) and the words found therein, and in common use, are without cited authority. To these have been added nearly twenty-seven thousand words, and authorities given. Beside a complete dictionary, this volume comprises the principles of pronunciation, orthography, English grammar, the history and origin of the English language, Archaisms, provincialisms, and Americanisms. Also, Walker's Key to the Classical Pronunciation of Greek, Latin, and Scripture Proper Names, and a department devoted to the pronunciation of modern geographical names and European languages, which are alike invaluable to the student and the common reader.

List of Patents Issued

FROM DEC. 12, 1854, TO JAN. 2, 1855.

- Nathan Ames, Saugus, improvement in polygraphs.
- Nathan Ames, Saugus, for improved polygraph.
- Gaetan Bonell, Turin, Sardinia, improvement in operating looms by electricity. Patented in France, Aug. 15, 1853.
- B. F. Brown, Dorchester, Mass., improvement in hanging carriage bodies.
- Mathew Cridge and Samuel Wadsworth, Pittsburg, improvement of oscillating steam-engines.
- Wm. F. Cumberland, Newark, improvement in machines for bending metal. Patented in England, Jan. 23, 1854.
- Thos. O. Cutler, New-York, improvement in machines for crushing and grinding minerals and other substances.
- Charles Danforth, Paterson, N. J., improvement in throstles for spinning cotton.
- George W. French and William Wagstaff, Cambridge, improved method of destroying vermin.
- Moses Gates, Gallipolis, improvement in hoes.
- John Good, Philadelphia, improvement in coffins.
- E. L. Hagar, Frankfort, N. Y., improvements in harrows.
- J. W. Hoard, Providence, angler's combined float and sinker.
- Enoch Jackman, Portland, Ct., improvement in securing carpets to floors.
- Jacob Jenkins and John R. Cooke, Winsted, Ct., improvement in hub-bands for carriages.
- Edward C. Johnson, Lowell, improvement in flyers.
- H. A. Lutgens, Paterson, N. J., improvement in cut-off regulators for steam-engines.
- J. W. Lovcraft, Rochester, feed motion for sawing light lumber.
- Wm. Lyon, Newark, improvement in sewing-machines.
- Henry H. Olds, New-Haven, improvements in propulsion of vessels.
- Eldridge H. Penfield, Middletown Ct., improvement in dock-holders for horses.
- James Perry, New-York, improved gold-collector.
- Henry A. Roe, West-Andover, Ohio, improvement in cheese-vats.
- Joel H. Ross, New-York, improved hygrometric regulator for hot-water apparatus.
- George Ross, New-York, improvement in looms.
- Geo. W. Stedman, Vienna, N. J., improvement in sewing-machines.
- Daniel W. Shares, Hamden, Ct., improvement in seed-planters and cultivators.
- Jeremiah Stever, Bristol, Ct., improvement in machine for scraping metals.
- Edward Stieren, Alleghany county, Pa., improvement in processes of treating the mother water of salines.
- Benjamin F. Taft, South-Boston, for boring machine.
- Henry Waterman, Hudson, improvement in condensers for steam-engines.
- D. P. Weeks, Malden, Mass., improved hot-air furnace.
- Jacob Weimar, New-York, improvement in door-locks.
- C. W. Wyatt, New-York, machine for dressing fellos.
- Daniel L. Winsor, Duxbury, improvement in ships' windlasses.
- John Andrews, Winchester, Mass., assigned to himself, Nathaniel A. Richardson, and Gardner Symones, of same place, for improvement in seed-planters.
- M. J. Lieberman, New-York, assigned to George S. Hanford, Solomon H. Handford, and John E. Hanford, for improvement in water-proof cloths, etc.
- Henry and William Tiebe, Cincinnati, assignors to themselves and Harmon H. Horman, same place, for improvement in casting the spouts of tea-pots.
- Joseph Perkins, Salem, Mass., assignor to himself and Henry P. Upton, of same place, for improvement in trussing yards to vessels' masts.
- Chas. P. Bailey, Zanesville, for feeding apparatus to a machine for cutting irregular forms.
- S. W. Brown, Lowell, improvement in condensers.
- T. J. Chubb, New-York, improvement in metal separators.
- Maj. B. Clarke, Newman, Ga., improvement in cleaning seed-cotton and feeding it to the gin.
- David W. Clark and Sylvester H. Gray, Bridgeport, Ct., for double-acting force-pump.
- Horace J. Crandall, Boston, improvement in bilge supporters for holding vessels in docks.
- Daniel Fitzgerald, Thos. Rogers, and Wm. C. Walker, New-York, improvement in guards for ferry-boats.
- Jno. S. Gage, Cowasiglac, Mich., improvement in clover harvesters.
- Geo. W. Grader and Benj. F. Cowen, Memphis, improvement in grain mills.
- Stephen Hadley, Jr., Lyman, N. H., for direct action water-wheel.
- Isaac B. Howe, Northfield, Vt., improvement in machines for straightening heavy metal bars.
- Wm. B. Leonard, New-York, improvement in dynamometers.
- Chas. Merrill, Malden, Mass., improvement in sash-fasteners.
- James Myers, Jr., New-York, improvement in making sugar-moulds.
- Geo. Keynolds, Bangor, improvement in compositions for tanning.
- John P. Sherwood, Fort Edward, improvements in cut-nail machines.
- Jona. Smith, Neponset Village, Mass., improved method of holding vessels by the keel in dry and other docks.
- John J. Speed, Jr., and John A. Bailey, Detroit, for shingle-machine.
- Louis Stein, New-York, improvement in revolving fans for apartments.
- Samuel Taggart, Indianapolis, for improved clutch in machines for packing flour.
- Nathan Thompson, Jr., Williamsburgh, improvement in life-preserving seats. Patented in Eng., Sept. 18, 1854.
- Grey Uley, Chapel Hill, N. C., improvement in boot-crimping machines.
- Daniel P. Weeks, Malden, Mass., improved oven cooking range.
- Wendell Wright, New-York, improvement in spring-bed bottom.
- Robert Griffiths, Alleghany City, and Geo. Shields, Cincinnati, assignors to Robert Griffiths, aforesaid, improvement in machines for forging horse-shoes.
- Wm. F. Ketchum, Buffalo, assignor to Rufus L.

- Howard, improvement in grain and grass harvesters.
- Elisha Pratt, Salem, Mass., assignor to Elisha Pratt and H. E. Upton, of same place, improvement in leather-splitting machines.
- Milton Roberts, Belfast, Me., assignor to Milton Roberts, and Hiram E. Pierce, same place, improved machine for turning prismatic forms.
- Allen B. Wilson, Watertown, Ct., assignor to W. P. N. Fitzgerald, Washington, D. C., improvement in sewing-machines.
- Norman Aylsworth, Rochester, improvements in machines for boring, planing, and slotting metals.
- David Baldwin, Godwinville, N. J., improved apparatus for feeding paper to printing-presses and ruling-machines.
- Wm. Ballard, New-York, improvement in constructing vessels.
- Abram Brigham, Manchester, N. H., improvement in looms.
- John E. Brown and Stephen S. Bartlett, Woonsocket, R. I., improvement in grain and grass harvesters.
- Thos. H. Burley, Cincinnati, dovetailing machine.
- Marshall Burnett and Chas. Vander Woerd, Boston, improvement in grain and grass harvesters.
- S. J. Butterfield, Philadelphia, improvement in locks for fire-arms.
- J. Caffry, Paradise Township, Pa., improved trap for catching animals.
- Thos. J. Flanders, Manchester, N. H., construction and mode of driving circular saws.
- Ezekiel Gore, Bennington, Vt., improvement in churns.
- Jesse W. Hatch and Henry Churchill, Rochester, improvement in machines for cutting out boot and shoe soles.
- Chas. W. Hawkes, Boston, and Geo. P. Reed, Waltham, improvement in compensation balances for time-keepers.
- Alex. Holstrom, New-York, improved apparatus for atmospheric pile-driving.
- James B. Harris, Cincinnati, improvement in railroad chair machines.
- Asa P. Keith, Bridgewater, Mass., improvement in cotton-gins.
- Julius H. Kroehl, New-York, improvement in machines for forming flanges on wrought-iron beams.
- Hazard Knowls, New-York, for cutters for tonguing and grooving.
- Westley M. Lee, New-York, improvement in machines for forging car wheels.
- Jean F. LeMouinier, New-York, improvement in constructing pavements, etc.
- Adrian V. R. Orr, Steepleville, Pa., for a shingle machine.
- Samuel Pearson, Jr., and Wm. H. Gardner, Roxbury, improvement in regulating the size of roving.
- Obediah Rich, Cambridge, Mass., improvement in processes for extracting tannin from leather.
- H. J. Rogers, Baltimore, improvements in signal flags.
- Sylvanus Sawyer, Fitchburg, Mass., machine for splitting rattans into stripes.
- Richard A. Tilghman, Philadelphia, improvement in processes for making soap.
- Farnham Z. Tucker, Brooklyn, improvement in life-preserving rafts.
- Henry G. Tyer and Jno. Holm, New-Brunswick, improvement in processes for making India-rubber cloth.
- Wm. E. Ward, Fort Chester, improvement in sheet-iron blinds.
- Daniel T. Ward, Newark, improvement in sewing-machines.
- Edward A. Foote, Hartford, improvement in protecting slides and ways from dust.
- Rufus Keeler, Rochester, assignor to Lewis C. England, New-York, improvement in tanning processes.
- Lewis Kech, New-York, assignor to Theodore Plucus, same place, for machine for manufacturing wooden boxes.
- P. H. Niles, Boston, assignor to himself and J. A. Richards, same place, improvement in curtain fixtures.
- A. H. Ward, Jr., Boston, assignor to himself and Kirk Boolt, same place, improvement in compositions for unhairing hides.
- Alex. Anderson, Markham, Canada, improvement in seed-planters.
- Robt. Arthur, Washington, improvement in self-sealing preserve-cans.
- S. B. Balchelder, Lowell, improvement in journal boxes for carriages.
- Wm. H. Brown, Erie, improvement in suspended purchases. Patented in England, Oct. 2, 1854.
- Sharpless Clayton, West-Chester, Pa., improvement in teeth.
- Willard Cowles, Washington, improvement in apparatus for stereotyping.
- Levi Dedrick, Albany, improvement in ox-yokes.
- St. John D'Doris, Philadelphia, for composition for fuel.
- Adolph Hammer, Philadelphia, improvement in fermenting tuns for beer.
- Emanuel Harmon, Washington, improvements in fire-proof iron buildings.
- M. G. Hubbard, New-York, improved mode of hanging the knife in planing machines.
- Jno. Imel, Liberty, Ind., improvement in cultivators.
- Asa Keyes, Brattleborough, improvement in machines for cutting and trimming slate.
- Philip W. Mackenzie, Jersey City, for machine for blowing blasts, etc.
- Henry Miller, New-York, improvement in steam railroad-car brakes.
- Russell S. Morse, East-Dixfield, Me., improvement in fruit-dryers.
- Francis Randolph, New-York, improvement in elevating scaffolds.
- Emile Sirret, Buffalo, improvement in rakes.
- John A. Taplin, Fishkill, improved method of hanging a path-finding saw.
- Cuno Werner, Philadelphia, improvement in compositions for dressing leather.
- Chapman Warner, New-York, improvement in cast-iron pavements.
- Wm. J. Warburton, Philadelphia, improvement in hats.
- Warren Wadleigh, Hill, N. H., improved machine for cutting irregular forms.
- Jos. S. Winsor, Providence, improvement in machine for making weaver's harness.
- Lysander Wright, Newark, for sawing-machine.
- Daniel Wells, Philadelphia, for burglar's alarm.
- Stephen Brown, Syracuse, improved press for printing different colors.
- Warren S. Burgess, Norristown, Pa., improved arrangement in double-piston steam-engines.
- E. Pulaski S. Cahoon and Samuel J. Ross, La Grange, Me., approved chuck for turning elliptical cylinders.
- Amory Felton, Troy, improvement in grinding mills.
- Wm. Hicks, Steubenville, improved paint brush.
- Sidney Kelsey, Erie, improved printing-press.
- C. Locher, New-York, improvement in folding life-boats.
- Jas. Lewis, Prattville, N. Y., improved printing-press.
- Thos. Slaught, Newark, improvement in padlocks.
- John Smith, of Cincinnati, improved crank connection in double-piston steam engines.
- Dwight Gibbons, Rochester, assignor to F. Starr, same place, improved brace for piano frames.
- Joshua Stevens, of Chicopee Falls, assignor to Massachusetts Arms Company, of same place, improvement in repeating fire-arms.

ro
ore
ng
A.
ix-
nd
esi-
ve-
elf-
mr-
ted
ve-
in
es.
ion
in
in
of
lti-
na-
ine
am
ve-
in
of
in
in
ent
na-
na-
ne.
m.
for
red
La
cal
ng
sh.
t.
ing
ng-
ad-
on-
urr,
to
m-